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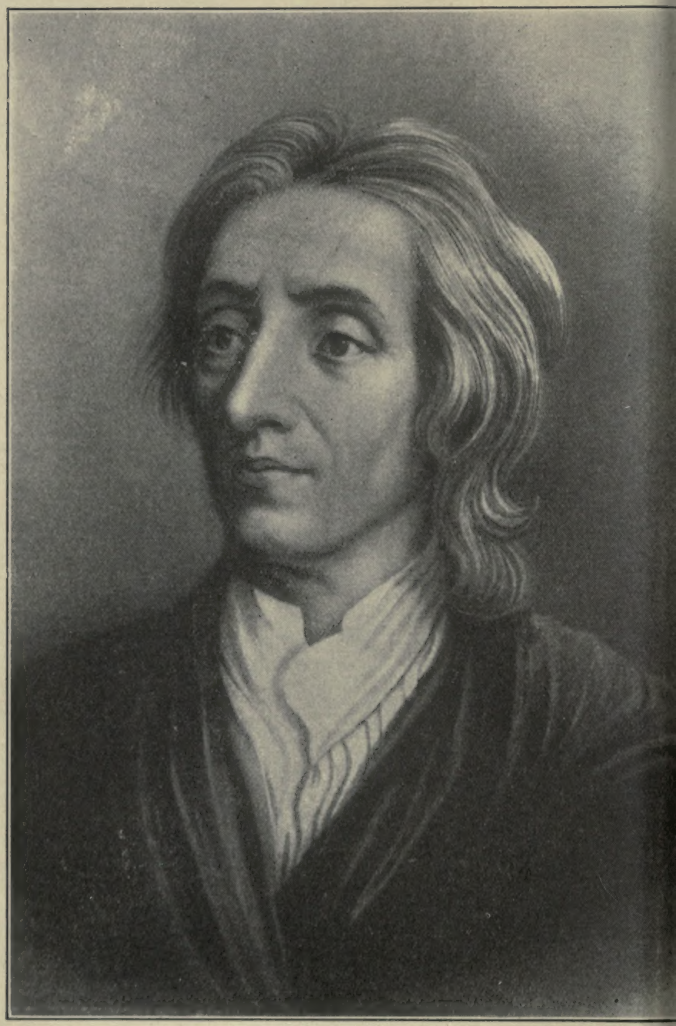
297



Frontispiece.

JOHN LOCKE.

HISTORY OF PSYCHOLOGY

A SKETCH AND AN INTERPRETATION

BY

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CONTENTS OF VOL. II.

PART IV (*continued*).[1]

MODERN PSYCHOLOGY—I. FIRST PERIOD, TO THE NINETEENTH CENTURY

CHAPTER I.

PAGE

EARLY EMPIRICISM, NATURALISM, EIGHTEENTH-CENTURY MATERIALISM - - - - - - - - 1

Locke, Hume, Condillac, Hartley, Priestley, Holbach, the French Encyclopædists.

CHAPTER II.

SUBJECTIVE AND CRITICAL IDEALISM; THE NEW MYSTICISM—FAITH PHILOSOPHY - - - - - 17

Idealism: Berkeley, Kant. Reaction to the Faith Philosophy: Jacobi.

PART V.

MODERN PSYCHOLOGY—II. SECOND PERIOD, THE NINETEENTH CENTURY

CHAPTER III.

PRELIMINARY SURVEY. PHILOSOPHICAL PSYCHOLOGY SINCE KANT - - - - - - - - - 32

German Idealism: Fichte, Schelling, Hegel, Schleiermacher, Schopenhauer. Spiritualism in England. The British Moral Philosophers and Associationists. Shaftesbury, the Mills, Hamilton. Scottish Realism: Reid, Brown, Stewart. French Spiritualism: Laromiguière, Maine de Biran, Jouffroy. Eclecticism: Cousin.

[1] For the preceding Parts, see the Contents to Vol. I.

CHAPTER IV.

PAGE

SCIENTIFIC PSYCHOLOGY IN THE NINETEENTH CENTURY AND BEYOND. I. GENERAL POINTS OF VIEW - 54

The Positive Method: Rousseau, Comte. Psycho-physical Parallelism. Herbart, Lotze.

CHAPTER V.

SCIENTIFIC PSYCHOLOGY IN THE NINETEENTH CENTURY AND BEYOND. II. SPECIAL LINES OF WORK - 72

Physiological and Experimental Psychology. Psychophysics. Mental Chronometry. Genetic Psychology: Lamarck, Darwin, Wallace, Spencer. Animal and Comparative Psychology: Instinct, Imitation, Play. Accommodation and Learning: Reflex and Causal Theories, Spencer-Bain Theory. Law of Trial and Error. Child Study.

CHAPTER VI.

SCIENTIFIC PSYCHOLOGY IN THE NINETEENTH CENTURY AND BEYOND. III. SPECIAL LINES OF WORK (CONCLUDED) - - - - - - 104

Social Psychology. Affective Psychology. Innervation and Kinaesthetic Theories: Bastian. Peripheral Theory of Emotion and Expression: James. Affective Revival and Affective Logic: Ribot. Animism and Ejective Processes. Æsthetic Psychology: Lipps. The Attention.

PART VI.

GENETIC INTERPRETATION OF THE HISTORY

CHAPTER VII.

THE DEVELOPMENT OF INDIVIDUAL THOUGHT - - 134

Rise and Development of Dualism in the Individual. The logical Interpretation of Dualism. The new Dualism of Reflection. The Development of imaginative Interpretation.

CHAPTER VIII.

HISTORICAL RESUMÉ. RESULTS OF THE COMPARISON OF INDIVIDUAL WITH RACIAL THOUGHT - - 151

The Primitive Period: Projective (Pre-Socratics). The Dualistic Period: Subjective (Socrates), Ejective (Plato), Objective (Aristotle). Transition to Reflective Interpretation (Patristics, Scholastics, Mystics). Reflective (Modern). Conclusion.

INDEX - - - - - - - - 163

LIST OF SOURCES - - - - - - 167

LIST OF ILLUSTRATIONS

LOCKE	*Frontispiece*
	PAGE
CONDILLAC	13
MAINE DE BIRAN	51
ROUSSEAU	57
HERBART	63
LOTZE	69
HELMHOLTZ	73
SPENCER	83
JAMES	113
FECHNER	116
RIBOT	119

ERRATA

(Vol. II.)

Page.

95, lines 1, 10, 12, and note 1, *for* "Gross" *read* "Groos."[1]

96, line 24, the same correction.

127, ,, 18, and note 3, line 1, same correction.

119, under portrait, omit the fourth line (in brackets).

[1] This mis-spelling of Prof. Groos' name is not due to the author, but has slipped in somewhere in our office.—*Publishers' note.*

Part IV. (*continued*).

MODERN PSYCHOLOGY. FIRST PERIOD, TO THE NINETEENTH CENTURY

Chapter I.

Early Empiricism, Naturalism, Materialism.

Psychology as Empirical Theory of Knowledge.— In *John Locke* (1632–1704) the full empirical point of view revealed itself. Locke limits the problem to the events of the inner life; and uses the method of observation and induction. He attempts to treat of the actual sources of knowledge by a scientific method, as proposed by Francis Bacon.[1]

Moreover, he transferred the problem of the origin of knowledge, of all knowledge, from metaphysics to fact; from theories of divine illumination, pre-established harmony, and innate ideas, to hypotheses based on children, animals, and primitive men. Passing from this examination of actual knowledge, he proceeds to the more critical and epistemological questions of its validity and applications.

Pursuing what he describes as this "sober method of investigating the origin and connection of our ideas," Locke distinguishes between "simple" and "complex ideas." Simple ideas, which are those of immediate

[1] Locke's great work is entitled *An Essay concerning Human Understanding* (1690).

LIST OF ILLUSTRATIONS

LOCKE - - - - - - - - *Frontispiece*

PAGE

CONDILLAC - - - - - - - - - 13

Part IV. (*continued*).

MODERN PSYCHOLOGY. FIRST PERIOD, TO THE NINETEENTH CENTURY

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perception, are distinguished as coming either through the "external sense"—and belonging to the external world—or through the "internal sense," and belonging to the inner world of the mind itself. This latter, the sphere of the internal sense, is that of "thought" as defined in the system of Descartes; the external corresponds to the system of nature or "extension."

In this conception of simple, underived, original elements or data of consciousness, the basis is laid for the work of qualitative and analytic psychology, one of the problems of which has remained that of determining these original elements.

In this general position, certain other problems were raised. The mind is conceived of as having certain "powers" native to it. But there is only the one agent or person, who has ideas through the use of all the powers or faculties. These latter are simply its ways of acting. It may be aroused in the way of sensation and perception, in the way of memory, of imagination, of will, etc. This is Locke's refutation of the "faculty psychology" of Scholasticism, afterwards continued by Wolff.

Judged by their internal characters, the simple ideas of the external sense show different marks. They have "primary" and "secondary qualities," both attributed to the external object.[1] The primary qualities are those which reproduce essentially external conditions—extension, resistance, movement, etc. These are the qualities by reason of which the external object is what it is, as independent of perception. The secondary qualities, on the other hand, are those in which the

[1] For a note on the history of the distinction, and of the terms primary and secondary qualities, see Klemm, *loc. cit.*, p. 282, who cites Baumke.

process of perception itself has a part—such as colour, taste, position. In the primary qualities the reality of the "extension" of Descartes is vindicated. In the secondary, the variations arise which produce relativity and illusion.

Locke does not stop, with Hobbes, at a mechanical view of the play of ideas. He finds a further and higher power of the mind: that of "reflecting upon the course of ideas." Beyond ideation there is reflection. Ideas are the "objects of the understanding *when it thinks*."

Reflection is the source of a new series of ideas—general, abstract, universal—which involve relations between and among simpler ideas. Such are the ideas of cause, substance, relation itself. Locke's distinction between sensation and reflection reminds us of that of Leibnitz between perception and apperception; and it is likely that the latter is a revision of the former, for Leibnitz kept Locke's *Essay* constantly in mind.

The ideas of reflection are not innate; there are no innate ideas. This Locke argues with great wealth of inductive proof; but by innate ideas he generally means actual conscious presentations or images. He shows that children lack innate ideas in this sense. This Leibnitz was able to meet by postulating "unconscious presentations," which slumber in obscure form and in the undeveloped psychic modes, but are still essentially innate. The admission by Locke of certain inherent "powers" or functions would seem to leave open the door for the later critical distinction between the *a posteriori* or experiential content, and the *a priori* or native form, in the structure of knowledge.

The motive of Locke is clear, however: it is the

general refutation of rationalism. For to all rationalism it is essential that the reason be not dependent upon purely sensational or empirical data, either in its origin or in its products. Locke's aim was to establish empiricism.

To Locke, further, reflection was largely a passive power; it was reflection *upon* the course or flow of our ideas, not reflection as itself determining this flow or course to be what it is. Reflection is an "inner sense." The actual flow of ideas is due to the laws of association, a term first used, though in a special reference, by Locke. So while the mind reserved the power of thought or reflection, still all other contents, together with the laws of organisation of these contents in complex ideas, were due to sensations and their interaction. As over against rationalism, the programme of a mental mechanics, a pure "presentationism," was suggested in anticipation; and at the hands of Hume and the Associationists, this programme was to be speedily realised.

Locke's *Essay* contains a wealth of sound psychological observation. His analysis of the ideas of reflection, the categories, is the first of its sort: analytic, empirical, psychological. He accepts the certainty of the existence of the mind, immediately given, as Descartes declared. The existence of the external world, on the contrary, was derived; it depended upon the character of "liveliness" attaching to certain sensations.

The active powers, feeling and will, have scant notice. They have not the importance that cognition has in a polemic against rationalism. Pleasure and pain are simple ideas or sensations. Will is an original movement of the mind, an effort motived by

"uneasiness." Both feelings and conations, or efforts, like other simple ideas, are involved in the processes of association.

Locke focused certain problems by means of experiment also. His proof of the relativity of temperature is classical: he pointed out that the two hands feel the same water as of different temperatures when they themselves are. He also demonstrated the limited area or span of consciousness, by showing the inability of the attention to take in more than a certain number of items or units exposed simultaneously to the eye.

Locke's significance for psychology, in sum, resides primarily in the empiricism of his point of view. This made possible an analytical method, as expounders of Locke generally recognise. But it is not so generally remarked that Locke's research was one of origins also. He aimed to show the nature and validity of ideas as dependent upon their origin and development. This is the point of view, in so far, of modern genetic psychology. The analytical empiricism of Locke was taken up and carried forward by his successors; but the genetic factor remained undeveloped until the theory of evolution came to reveal its true value.

Sensationalism and Associationism.—David Hume (1711–1776), the greatest of the Scottish philosophers, developed Locke's position in the two directions in which empiricism still retained rationalistic features.

First, the distinction between sensation and reflection, sense and reason, was abolished; even in the functional form of it that Locke's theory of mental "powers" had retained. Second, a thorough-going "associationism," essentially mechanical in character, took the place of Locke's Cartesian theory of self-

consciousness. The synthetic activity of the mind was replaced by the association of ideas.

Hume entirely denied any effective rôle to mental function or process as such. He distinguished in mental contents two grades, "impressions" and "ideas." But he distinguished among impressions, the first data of experience, "inner" and "outer" impressions. Inner impressions were those of the inner sphere itself, such as pleasures, pains, efforts, etc.; and outer impressions were those received by the senses and having the imprint of externality. All possible materials of knowledge, of experience throughout, arise in impressions; and since the term sensation is commonly used for such first data of knowledge, "sensationalism" became the term applied to the resulting theory of knowledge. Rationalism asserts the originality of reason, and explains away or ignores sensation; sensationalism asserts the originality of sensation, and explains away or derives the reason.

The term "idea" is confined by Hume to the derivatives or revived contents of mind in which impressions reappear. They take on various forms of revival and composition. In general, the "idea" of Hume corresponds to the "complex idea" of Locke, and "impression" to Locke's "simple idea." In the use of the term impression itself, the passivity of the mind, its mere impressiveness, is emphasised. As a *tabula rasa*, it receives or suffers impressions.

Ideas, the contents of imagination, differ from impressions, the contents of sensation, in vividness or intensity. According to Hume the most vivid idea is less so than the least vivid impression. This difference is, therefore, the distinguishing one.

The course of ideas—their flow, connection, composi-

tion—was ruled by the principle of association. In this, a mental principle was substituted for the material inertia of the brain, postulated by Hobbes. It also replaced, as we have already seen, the active principle of thought of Descartes. For the first time, a psychological mode of organisation was suggested to justify a naturalistic view of conscious process. Association came to be recognised by a great school of thinkers as the one principle of mental change and movement, somewhat as attraction was found to be in the domain of the physical.

Hume recognised three cases of association, generalised in laws: the cases of "resemblance," "contiguity" in space and time, and "cause and effect." As compared with Aristotle's classification, this omits "contrast," and includes the new case of "cause and effect." In the tracing out, the detection as it were, of association in the more complex and synthetic products of the mental life—such as the ideas of the self, the external world, etc.—Hume showed his analytical ability and consistency. He was the first, and remains one of the greatest, of those psychological naturalists who have consistently applied a positive method. Association seemed to supply the hint to the process of progressive mental accommodation, as natural selection subsequently supplied the hint to that of organic adaptation. It gave to naturalism a positive weapon, to mental process a positive lawfulness. And it remains the resort of all those psychologists who find in apperception, mental causation, subjective synthesis, etc., the resort to new modes of obscurantism, such as the natural selectionist finds in the newer modifications of vitalism. It was not until the conception of a structural psychology, based upon the analogy of the

mechanical processes of physics, was succeeded by that of a functional and truly genetic psychology, to which mechanism was not the last word, that association was finally assigned a more modest rôle. The "mechanics of ideas" of Herbart and the radical "composition theory" of mind of Spencer were first to have their development, both based upon the principle of association.

Hume worked out, in detail, association theories of the higher ideas or concepts of thought, classed by him under the terms "relations," "modes," and "substances." The "self" became a "bundle" of associated ideas; in this the "presentation" theories were anticipated, which were later on brought into direct opposition to "activity" theories. The belief in reality, both external and internal, is ascribed to the vividness of certain impressions, whose force is transferred to associated ideas or memories; these latter are thus distinguished from mere ideas of fancy. Judgments of reality involve a similar reference to impressions. The grounds of belief in reality are in this way carried back to the characters or coefficients of sense-impressions. The persistent character of external reality—looked upon as having continuing existence apart from perception—is due to the imagination, which connects recurrent impressions in an experience equivalent to that of an identical persistent object.[1] The logical relations, so-called, such as that involved in the universal, are also brought under association. The quality white, for example, is not a logical universal, but an "abstract idea," due to the association by resemblance of many white objects. In this procedure,

[1] Later thinkers fall back upon much the same psychological factors; cf. the writer's *Thought and Things*, Chap. X, Vol. I.

Hume foreshadows the development of what is known as "psychologism" in logic.

In Hume the emphasis continues to rest upon cognition, upon ideas, and upon the theory of knowledge. His interest, like that of Locke, was in the refutation of rationalism. Accordingly, we find scant notice of feeling and will. Hume developed Locke's position that pleasure and pain were simple ideas or impressions —internal in character—subject to the laws of association. The emotions are impressions aroused by ideas, with which they become straitly associated. Acts of will are similar internal impressions aroused by feeling; they are capable of reproduction as ideas, and are subject to association with other ideas.

Much of the reasonableness of Hume's theory arises, however, from a further almost tacit assumption, by which he supplemented the principle of association. He assumes and employs to the utmost the principle of "custom" or "habit." Habit works wonders in his hands—just the wonders that the Lockian "inner sense," the Cartesian "reason," and later on the Kantian "formal categories," worked in turn. By habit, said Hume, the associated impressions and ideas are bound into aggregates and wholes, to which belief and custom attach; and in which the original details of structure and complexity are lost. The complex ideas, thus welded and fused by habit, have the unity and certainty of the "clear and distinct" ideas of reason described by Descartes and Leibnitz, and conceal their origin from impressions and presentations. Things repeatedly and invariably associated together become parts of one whole over which habit overflows, and to which habit gives the sanction of a universal and necessary connection. All necessity attaching to the course

of events, either internal or external, is due to habit. What we are in the habit of finding we take to be true and necessary.

In this Hume struck upon one of the most fertile ideas of modern psychology and philosophy.[1] Its philosophical significance is seen in the development of empirical theories of knowledge and of morals in which the formal element in truth and duty is attributed to the consciousness of habit. Individual habit passed over into the "inherited habit" by which Spencer accounted for the *a priori* "forms" of Kant, and into the "social custom" by which the utilitarian moralists accounted for the imperative of the practical reason.

In this way, rational form, intuition, the innate idea, are accounted for by individual or racial habit, or by the two combined.

Its psychological significance, apart from the theory of knowledge, resides in the suggestion that in habit, considered as a tendency of a functional sort, the inner principle as such is in a sense located; it is to be sought in the active and synthetic side of consciousness. It brings this side of the mental life within the range of observation, and substitutes something actual in consciousness for the postulates of logical and metaphysical theory. The concept of habit has been developed enormously in a group of modern theories of

[1] Of the historians of psychology, Harms alone, I think, speaks of this (Harms, *loc. cit.*, pp. 311 ff.). Dessoir seems completely unaware of this part of Hume's psychology; and Klemm makes no note of it that I can find. In fact, however, the "habit" of Hume supplies a most interesting transition from the "inner sense" of Locke to the purely mechanical processes of Condillac. An acute exposition and criticism of Hume's view is to be found in T. H. Green's *Introduction to the Philosophy of David Hume.*

the "motor" or dynamic type, which account for the whole range of the synthetic function—attention, apperception, interest, generalisation, thought, the self—in terms of the consciousness of movement and activity.[1]

By way of summary we may say that Hume is to be considered, both by reason of his conception and because of his method, one of the prophets of modern psychology. In conception, he held to a naturalism which submitted the mind as a whole—the self as well as its knowledge—to investigation by the same right as other things in nature. In method, he was an experimentalist, a positivist, admitting no intrusions from metaphysics, no dogmatic assumptions. His results were, of course, in a measure personal to him, and as is the case with those of all pioneers, they have been criticised, developed, in part rejected. But in his principles of association and habit, no less than in his sensational theory of knowledge, Hume worked out views which have been and still are of enormous influence.

His psychology is one of those systems whose very radicalness and freedom from ambiguity make them typical and influential not only positively, but also as targets for the practice of riflemen generally. His soberness and homely clarity of style—qualities similar to those of Locke—gave his views universal currency; and it is to the reaction against Hume that the next great departure in rationalism, the Criticism of Kant, was directly due.[2]

[1] All the writers of the "motor" school are not, of course, so radical in their use of the principle. Ribot makes thorough-going use of it; Fouillée and Münsterberg employ it more incidentally. In the present writer's *Mental Development in the Child and the Race* (1st ed., 1895) it was given the wide scope indicated in the text.

[2] More than once has philosophical rationalism found it con-

Condillac, Étienne (1715–1780).—In Condillac, the sensationalist theory was transferred to France. In Great Britain, especially in Scotland, a reaction toward spiritualism showed itself, as a protest against the materialistic consequences drawn from the premises of Hume.

Condillac pressed the sensationalistic analysis to its conclusion. He dropped Hume's principle of habit, and with it all effort to preserve mental synthesis as such. Sensations alone, accompanied by feeling, reproduced as ideas, and dominated by association, account for the entire mental life. All the so-called "rational" products of the mind are groupings of sensations, effected by association.

Condillac did not concede the legitimacy either of the supposition of an external world apart from sensation, or of an inner principle as such. These assumptions, said he, come from the needs of our practical life. We act upon a world, *or seem to,* and it is we who so act, or *seem to;* but there is nothing in knowledge to justify either of these assumptions—either the "we" or the "world." By the famous figure of a statue alive, but without experience, Condillac illustrated the development of the entire mental life, through the introduction into the statue merely of the senses and the rules of association.

Condillac has the importance that extremes usually have: that of isolating a view, and freeing it of all ambiguity. He also suggested the new lines of departure to be taken in the movements of phenomenalism and materialism. The first of these appeared when the "primary qualities" of matter—resistance, extension,

venient to "introduce" itself by a criticism of Hume. See T. H. Green's *Introduction to the Philosophy of David Hume.*

ÉTIENNE BONNOT DE CONDILLAC.

etc.—were reduced to complexes of sensations and ideas, as the self had already been reduced by Hume. The conclusion is that the flow of states within consciousness is all that we really have—mere phenomena, appearances—and that there is no reality behind them. This sort of analysis was also made in England by Berkeley, an elder contemporary of Hume, to whom we are to return.

Further, impulse, and with it will, is the presence in mind of a dominant idea of advantage or pleasure; and attention is the presence in mind of an intense sensation or presentation.[1]

Such phenomenalism, it is clear, reinstated the point of view of the Sophistic dictum, *Homo mensura omnium,* but with the reinforcement that came from the intervening thought of centuries in defining and isolating the subjective point of view. The Sophists were predualistic; the modern phenomenalists, post-dualistic. The Sophists were unable to pass to a clear distinction between mind and body, either by sense or by reason; ideas alone remained to them. The phenomenalist argues away the distinction by consciously denying both the substances mediated by ideas; to them also ideas alone remained. The difference shows itself, moreover, in the greater individualism of modern phenomenalism. The inner life had become that of the private and single self, the area of personal consciousness. Phenomena, thus restricted to the individual, had the greater relativity and the lesser value. One goes on logically to solipsism. As theory of the mental life, it supplied the psychology of agnosticism.

Pure phenomenalism, however, in the form of

[1] Both being positions made use of in the modern "presentational" and Herbartian theories.

solipsism, is rarely held. The tendency is to use this sort of analysis in the interest of a philosophy which denies one sort of reality, in order to reinforce its assertion of the other. In Berkeley, it was mind which profited by the subjective analysis of body; in the materialists, to whom we next turn, it is body which is retained at the expense of mind.

Eighteenth-century Materialism.—Among writers in England, *Hartley* (1704–1757), a contemporary of Hume, and *Priestley* (1733–1804) took the step from sensationalism to materialism; in France, it was taken by Lamettrie, a contemporary of Condillac.

Intelligence, comprising all the faculties of reflection and volition, having been reduced to sensations, and the self to a complex thereof, it was easy to substitute for the impression in the mind its cause in the brain. The brain state, the organic counterpart of the sensation, is part of the physical world; it reflects the physical excitation of the senses. The whole person then, not merely the body; the sensation, not merely the exciting cause, is part of the material system of nature.

It was natural, also, in order to give greater positiveness to the law-abiding character of mental phenomena, to ground the association of ideas in the material connections of the brain. Priestley especially developed the idea that the organisation of mental states reflected that of the brain centres. He explicitly taught the identity of mind and brain. For Hartley and Priestley, the continuity of mind was in principle that of brain processes; ideas as states of memory and imagination were due to the reinstatement of brain states according to this law. Thus the last shade of the distinction between sensation and idea disappeared.

The further development of materialism is mainly of philosophical interest. It was carried forward by Diderot, Holbach, and the French Encyclopædists.[1]

The aspect of their view that is of psychological significance is the supposed parallelism it suggested between mental and physical states, a suggestion developed into what is now known as "psycho-physical parallelism."[2] This principle does not associate itself necessarily with materialism; Spinoza and Leibnitz had already suggested it in their theories of correlated "attributes" and of "harmony." It allowed also of an interpretation of the mind in terms of the aggregation of psychic atoms—"least states" correlated with least physical changes or vibrations—by Diderot, which anticipated a new pan-psychism and a new positivism. Spencer, later on, postulated an "elementary sensation" correlated with an "elementary nervous shock," in much the same sense.[3] Materialists like Holbach went beyond this, teaching the positive identity of mind and body, and the metaphysical existence of matter and motion. In the neat phrasing of Harms, "mechanical physics supplied the metaphysics of materialism" (*loc. cit.*, p. 323).

[1] Baron von Holbach's *Système de la Nature* (1770) is one of the classical statements of Materialism. He postulated qualitatively different atoms, in the sense of chemical elements.

[2] See below, Chapter V, of this volume.

[3] So comparative psychology may assume in low organisms a "nervous analogue" to elementary states of pleasure and pain. See the writer's *Mental Development in the Child and the Race*, 1st ed. (1895).

Chapter II.

Subjective and Critical Idealism—Faith Philosophy.

We have seen, on an earlier page, that the philosophical interpretations taking their rise in the dualism of Descartes might be classed, for psychological purposes, as Dualistic, Naturalistic, Idealistic, and Mystical. We have traced out the history of the first two of these movements: Descartes to Wolff, and Locke to Condillac, respectively. We now turn to the idealistic movement, which arose as a protest against sensationalism. In its early manifestations it retained the intellectualistic character of a philosophy of knowledge; and only later did it take on the two contrasted forms of Intellectualism and Voluntarism.

The development of Intellectualism showed itself in two important figures: George Berkeley, Bishop of Cloyne, and Immanuel Kant, the "Sage of Königsberg."

George Berkeley (1685–1753).—In Berkeley's psychology we find the carrying out of what afterwards became the Humian analytic method, but with a different philosophical motive from that of the sensationalistic followers of Hume. The analysis of external reality into sensations did not mean logically a resort to materialism, although the intervention of the nervous system between the world and the mind suggested that construction. For the term that remains when the analysis is exhaustive is not a material term, nervous or physical, but a mental term, a sensation.

Berkeley demonstrated this. He carried the subjective analysis of the physical thing out to its logical issue. The primary qualities—extension, resistance, etc.—were mental states, no less than the secondary qualities. The external world of perception, he declared, has no separate existence: "To be is to be perceived," *esse est percipi.* This became part of Hume's case. If there be no further factors than those involved in sense perception, then the primacy of the inner realm, the subjectivity of all experience, is demonstrated. Berkeley thus met the materialists.

It was by an analysis of vision that he illustrated this. His *Theory of Vision* is famous. He demonstrated that visual space is relative and subjective. He derived the visual localisation of objects from association with sensations of touch. The eye of the child sees the object as located by the hand, and afterwards assigns the visual stimulation to the location thus established through association. Visual space is thus found to be relative, neither wholly innate nor wholly governed by external space relations.

Berkeley prepared the distinction of Hume between impression and idea by pointing out a variety of points of difference. Besides differing in intensity and liveliness, the idea is not dependent in its duration upon an external stimulus; and, moreover, it is part of an associated context or order of contents.

These points may suffice to show the thorough empiricism, as well as the accuracy, of Berkeley's procedure.

It was his philosophy, however, that spoke the last word. The soul, he said, is a simple active being, revealed to us through experience, but not perceived in any concrete experience. It is a concept drawn from

the mental life, rather than an idea found in the mental life. Nothing exists except spirits; the other existences, whose essence is to be perceived, are maintained by the perception of God, who is the true cause of their appearance to us. When perceiving, mind is reason; when acting, it is will.

We here reach a new spiritualism, making use of the subjective analysis that served also the purposes of materialism. For the one, subjectivism proved the non-existence of a spiritual principle; for the other, that of a material principle. So far as his theistic spiritualism is concerned, Berkeley belongs to the series of philosophers already described as rationalists. Logically he follows Malebranche, combining occasionalism with Leibnitzian monadism. But this should not lead us to misunderstand Berkeley's psychology and theory of knowledge. So far from deducing his psychology from spiritualism, he explains his psychological results by resorting to spiritualism. That is to say we have to see in Berkeley's psychology a legitimate advance in the direction of Hume's sensationalistic analysis.

Criticism: Immanuel Kant (1724–1804).—The principal problem of Kant is well set forth by the word used by him to indicate his method. He instituted a "critique" of the entire outcome of the mind's operations of knowledge (in the *Critique of Pure Reason*), practice (in the *Critique of Practical Reason*), and sentiment (in the *Critique of Æsthetic Judgment*): *reinen Vernunft, praktischen Vernunft,* and *Urteilskraft.* By this criticism he endeavoured to distinguish the universal element contributed by the mind to its experience, from the particular elements which experience offers to the mind. Starting from knowledge and

practice as we find them, he asked: How is experience possible?—what are its factors?—what are the logical conditions on which any experience whatever can arise?

His general result is that there are formal elements in all experience which cannot arise from the combination of mental contents, sensations, and ideas, mechanically combined by association; that is, there are elements which are not in themselves experiential or *a posteriori*. On the contrary, by these forms which are peculiar to thought as such, and *a priori*, the chaotic materials of knowledge are organised and become intelligible, good, and beautiful. All experience, in order to have meaning, must be ordered in certain categories natural to the mind itself; and it is the function of criticism to point out these categories or *a priori* forms severally and in detail. To these forms he applies the term "transcendental," as opposed to the empirical contents, which are "phenomenal."

He investigates sense-perception in the section on "transcendental æsthetic," discovering the forms of space and time, which belong respectively to the "outer sense" and the "inner sense"; and thought, in the "transcendental analytic" and "dialectic," discovering the categories of logical process (*Verstand*) and the transcendental "ideas of the reason" (*Vernunft*), God, freedom, and immortality. Similarly, he finds in the practical life the *a priori* form of duty, the categorical imperative; and in the life of sentiment the norms of æsthetic judgment, which are the forms of appreciation or "taste."

All these transcendental elements of knowledge, action, and appreciation are present in experience, organising the manifold of unordered data into a world of actual phenomenal objects. They do not have any

further application; since "reason without sense is empty, as sense without reason is blind." The supposed real world, the world *an sich*, independent of experience, although postulated by the reason, remains a "thought-world," *noumenal* as opposed to phenomenal, inaccessible, unknown. Thus the ideas of the reason, God, freedom, immortality, remain mere postulates or demands, instruments of organisation, so far as the reason is concerned. The attempt to apply them to a "noumenal" world leads to insoluble contradictions —the "antinomies of the pure reason."

This limitation upon the application of the forms of knowledge applies equally to the inner world, to the self. Knowledge stops with the empirical or phenomenal self; it does not reach the noumenal ego. The *a priori* forms are such only in the structure of knowledge, of which they are the logical conditions; they do not justify the assertion of a substantial self, any more than that of a substantial world.

The process of "transcendental apperception"—Kant's rendering of the synthetic and reflective function, called by Leibnitz "apperception"—does not escape the degradation to phenomenalism, due to its operation upon experiential data. The two sides of experience, the known world and the known self, coalesce in the one organised experience. On the right, but inaccessible, is a postulated real world; on the left, equally inaccessible, is a postulated real self. Knowledge is powerless to reach either the one or the other.

In this conclusion as to the nature and limitations of knowledge, Kant is both a powerful antagonist and a powerful ally of David Hume. His criticism—assuming its validity—refutes the sensational and associational theory of knowledge, simply by reverting, when

all is said, to the "inner sense" of Locke, a native function. But Kant differs from Locke in denying that the inner sense, or the outer either, reaches reality as such. The *a priori* principles of organisation are not causal or ontological grounds of objective construction, but merely its logical conditions. In this he brings logical justification to the agnosticism, present but undeveloped, in the sensationalism of Hume. If Kant had stopped, as Hume did, with the theory of cognition, he would have stood before the world, instead of the latter, as the father of modern agnosticism.

So far as experience itself is concerned, however, the inner sense, a subjective principle of apperception, is reinstated as over against all mechanical explanations of the composition of experience, both inner and outer alike. Here the two idealists, Kant and Berkeley, agree; logical criticism joins hands with psychological subjectivism. And the development of modern idealism in its various forms, proceeding from this point, is made possible. This is the gain, at any rate, accruing to psychology from Kant's criticism of the pure reason.

To the form of the practical reason, the categorical imperative, Kant attributes a different value. In the practical life, the ideas of the reason find their further justification. In the absolute imperative of duty, the postulates of God, freedom, and immortality, are found to be "constitutive," not merely "regulative"; and a world of values is revealed, absolute in character. In this way a sort of moral idealism, a Socratic justification of the true by the good, issues from the Kantian critiques; a justification not in a relative, pragmatic, or utilitarian, but in an absolute sense, since the good is the moral ideal, which with Kant, as with Plato, is

absolute. The soul as a reality is characterised as a free and immortal agent.

The third of the Kantian critiques, the *Critique of Judgment* (meaning judgment of appreciation, æsthetic in character), is less developed than the other two, but in the outcome it adds an important thought. The opposition found to exist between reason and practice does not amount to a theoretical contradiction. Reason is purely logical in its character and phenomenal in its function, while practice, although phenomenal in fact, is absolute in its ideal. How, it may be asked, can the universal ideal of conduct be guaranteed any more than the universal postulate of truth? If the former has application beyond experience, why has not the latter also?

In the *Critique of Judgment*, Kant finds, or at least intimates, a mode of reconciliation of logic and practice, of theoretical and practical reason, in the domain of feeling. Putting the matter in our own terms, which develop the idea Kant seems to have had rather obscurely in mind, we may explain as follows.

The purely formal postulates of the theoretical reason represent an ideal of organisation of contents or truths —a logical ideal—which, in view of its purely regulative character, as means and not end, has no right to go beyond phenomena: this in so far justifies the result of the *Critique of Pure Reason.* On the other hand, the formal postulate of the practical reason, the categorical imperative, represents a teleological ideal, not a logical one: it is an end, not a means. This in so far justifies the outcome of the *Critique of Practical Reason.* But the further question arises, how can the ideal end of the practical reason receive any content whereby it may become after all more than a formal

principle? The answer is that it can lose its formal character and become the ideal Good only as it is informed by the intelligence. This Kant agrees to. The practical ideal justifies the theoretical, the good supports the true; but it is for the sake of and because of the good. The true becomes absolute because an intelligible good requires that it should be so. God, freedom, immortality, postulated by practice, are *informed with meaning* by the intelligence.

Is there, it may be asked, any more intrinsic bond between the true and the good, between the theoretical and the practical reason, than this? And this is also to ask: Is there any bond between the formal or *a priori* as such, which the reason legislates, and the concrete facts and motives of life which sensible experience contains?

The more intrinsic bond in both these senses is to be found in the domain of feeling; this is what is intimated by Kant in the *Critique of Judgment*—the judgment of taste or appreciation. In appreciation, felt and judged, the universal loses its purely logical character, as mere rule of organisation, through the reinstatement, in imaginative or "semblant" form, of something concrete. The good, likewise, loses its purely teleological character as formal ideal of the will. Both become "as-if-actual" in the realisation that the judgment of appreciation discloses, according to its own rule of taste. The ideal of beauty is that of the immediate realisation of values of both sorts; and in the postulate of complete and final æsthetic fulfilment, the opposition between the ideals of intelligence and will, no less than that between particular and universal, is overcome.[1]

[1] Although to say that this can be rendered in "judgment,"

If Kant had worked this fully out, his kinship with Plato would have become more apparent. Plato also sought for the real union of the true and the good in love and contemplation, affective in character. Both were in this sense pancalists.[1] In Plato this issues in the absolute, while in Kant it secures merely the objective thing (not the thing in itself) of our imaginative faculty, which is disinterested and common to all individuals.

It is worth while to bring out this neglected and in itself undeveloped side of the Kantian philosophy; for it is of high psychological interest. Kant opposed the psychologising tendencies of Locke and Hume, claiming himself to take up the purely logical point of view of considering experience as a system of organised objective data. He distinguished the problem of the origin of knowledge from that of its validity. This did very well for the pure reason; and the method was in the main consistently maintained by him. But in the criticism of the norms of the practical reason a departure is noticeable in the direction of a hospitality to other than logical, to moral and psychological, grounds of validity. In the critique of æsthetic judgment the lapse from grace is complete. The judgment of taste is studied largely as a psychological process; it proceeds according to an *a priori* rule or norm, but it is not submitted to the rules of the concepts of the understanding. The "harmony" of the æsthetic object is due to the harmony or full agreement of the faculties.

strictly speaking, is in a way to let in the nose of the logical camel again.

[1] A term suggested by the present writer, *Thought and Things*, Vol. III, Chap. XV, for the developed view of this type. See the account of the more explicitly pancalistic views of Schelling, below.

In the result, the gain to psychology—or to "anthropology," as Kant would put it—is mainly in the treatment of the non-intellectual functions, will, moral judgment, and æsthetic appreciation. The *Critique of Pure Reason*, which contains the discussion of knowledge, is so run through with logical classifications and distinctions, and so permeated with *ex parte* argumentation, that psychology proper profits little from it. For example, the table of categories of the intelligence, showing symmetrical four-times-three headings, follows from the fourfold distinction of attributes of judgment —quantity, quality, relation, and modality—of the scholastic logic.[1]

Similarly, the arguments cited to prove the *a priori* character of space are deductive and lacking in experiential basis. Kant says that space is the native form in which alone the perception of extended objects is possible, because while we can think of space from which all objects have been removed, we cannot think of objects from which space as extension is removed. But why may not empty space be an abstract concept drawn from the property of extension in objects, the extension which, according to Descartes, was—for much the same reason as this of Kant—the very essence of body? Descartes maintained this on the ground that while other properties of external objects were relative,

[1] This tendency appears in high light in Kant's attempt to correlate the three fundamental functions, intellect, feeling, and will, with the three stages in the process of formal thinking as recognised in logic—concept (term), judgment (proposition), and conclusion. The concept corresponded to intellect, and the conclusion to will (seeing that will is merely formal, having no rational content); and judgment, being the only function left over, must correspond to feeling. It is on such grounds as this that Kant's third Critique is called *Kritik der Urteilskraft.* See Bernard's translation of the *Critique of Judgment*, Introduction (1892).

the spatial properties were necessary to the conception of body as such.

Kant's argument would apply equally to colour. We cannot think of empty space without some colour—grey, white, black, or what not. Colour must, then, be an *a priori* form of the external sense.

Kant entrenched the faculty-psychology more firmly by his sharp distinctions of sense, intelligence, and reason. These remind us of the different souls, or "parts" of the soul, of Plato. Sense gives order to objects in space and time, intelligence relates them in synthetic categories, and reason imposes the regulative ideals of all knowledge. And yet with all this formal apparatus, Kant also finds functional motives at work. He follows Tetens in the distinction of intellect, feeling, and will—the beginning of the modern threefold classification of the mental functions. Intellect and will refer to objects, feeling to the self.[1] He broadened the definition of apperception to include the synthesis effected *a priori* in perception; and he used the term "inner sense"[2] for the functional aspect of consciousness as a whole.

Kant's teaching in regard to imagination (*Einbildungskraft*), obscure as it is, shows his more direct psychological instinct at work. Imagination, he says, plays a part between perception and thought, throwing the manifold of sense, by a sort of first synthesis, into "schemata" for the work of the intelligence. He takes

[1] Tetens had distinguished intellect and will, as "active," from feeling, as "passive." This writer also distinguished sensation in the Kantian sense (*Empfindlichkeit*) as referring to an object, from feeling.

[2] In the *Anthropology*. Yet by the inner sense, Kant also sometimes means the mere ordering of the phenomena of self-consciousness in time (so in the transcendental æsthetic).

up, that is, the point made by the mystics of the Renaissance.[1]

This is, as we have pointed out elsewhere,[2] sufficiently close to the newer view of the imagination—considered as the function that entertains assumptions and hypotheses, suggests alternatives and proposes suggestions, preliminary to the formation of judgments—to justify the adoption of Kant's term "schema" (with "schematise") for this very vital function of cognition. In the *Critique of Judgment,* also, Kant gives the imagination the all-important place in æsthetic production, as Aristotle had done.

With it all, however, we must say that nothing short of the abandonment of the ultra-logical point of view could have integrated these and other bits of good psychology in the Kantian system.

Kant explicitly declared that a positive science of psychology was impossible. He contended that the matter was not amenable to mathematical treatment, and also that the relative and mobile character of mental states precluded exact observation. We cannot observe an emotion without altering it. Moreover, the flow of mental process has only one dimension, its order in time.

On the whole, we may observe that Kant's mind was so filled with the fact of unity in all the mind's products, especially in the objects of knowledge, and so convinced of the inadequacy of the mechanical explanations of the associationists, that he detected synthesis everywhere: synthesis logical and psycho-

[1] See above, Vol. I, Chap. VII.

[2] In *Thought and Things,* Vol. I, Chap. VIII, and Vol. II throughout. The work of Meinong, *Über Annahmen,* also emphasises this rôle of imagination, placing it, as Kant does, between perception and judgment.

logical, synthesis *a priori* and *a posteriori*, the syntheses effected by different faculties often duplicating one another. This gives him his place in history. He offered a new method and made fruitful co-ordinations which were made use of by his successors in a more constructive and synthetic idealism. His theory of knowledge revives Aristotle's doctrine of matter and form; but he applied it to organised experience instead of to vital organisms. This is in itself a suggestive commentary on the progress of the subjective and logical points of view.

The Faith Philosophy: Jacobi.—The extremes reached by Spinoza and Kant in rationalistic absolutism and scepticism, respectively, were the signal for a return to feeling. A movement sprang up, similar to the earlier developments in the direction of mysticism after periods of abstract logical thought—the early Greek Mystics, the Neo-Platonists, the German Mystics, those of the Renaissance. Kant's destructive criticism of logical dogmatism, Luther's return to justification by faith, the prevalence of quietistic and pietistic views, the reaction of the Roman Church to authority, in opposition to the Reformation—all conspired to produce a doctrine of immediate knowledge or intuition in opposition to mediate and discursive reason.

This doctrine found its exponent in *F. H. Jacobi* (1743–1819), a late contemporary of Kant. In him it issued in a conscious and critical attempt to justify faith, both as a substitute for rational or conceptual knowledge and as a method of philosophising, in the place of argumentation. As to the first of these, Jacobi declares that there can be no other outcome for rational philosophy than that of Spinoza, which is atheistic; and

as to the second, that there is no result from the use of argument save materialism. He attempts positively to define and justify faith as an organ of apprehension. It is immediate, not mediate; an act, not a process. Both sensible fact and supersensible reality are known immediately by faith. Faith may be produced through argument, and aroused by imagination; but it is different from both of these: it renders its results by a necessity of feeling.

Later on in life Jacobi identified faith with the pure reason (*Vernunft*), interpreting this, however, as feeling. He used the term intuition (*Anschauung*) for this mode of apprehension through feeling, and so made himself a forerunner of the Scottish[1] and other later philosophers of intuition.[2]

The faith philosophy, called "fideism," is noteworthy as an effort to justify feeling as an organ of immediate knowledge.[3] It does not attempt, with the older mysticism, to utilise feeling as exemplified in trance states merely, as the vehicle of aspiration and religious enthusiasm. On the contrary, it sees in faith a normal and universal mental attitude. In this it affords a further step—as the theory of imagination in Aristotle and the Renaissance mystics was one step, and the theory of practical reason in Kant, with which Jacobi

[1] The intuitions of the mind are described in J. McCosh's *Realistic Philosophy* as "primitive beliefs."

[2] "The understanding," says Jacobi, "produces notions, of notions, from notions," in a passage written quite in the spirit of the most modern a-logism.

[3] "There is a light in my heart, but it goes out whenever I attempt to bring it into the understanding. . . . Which of these two is the true luminary? . . . Can the human spirit grasp the truth unless it possesses these two luminaries united in one light?"—Quoted from Jacobi by Schwegler, *History of Philosophy in Epitome*, Eng. trans. (1886), p. 318.

himself connects his own view, was a second—towards a psychological and experiential doctrine of intuition.

We may say that the stream which embodied the affective motive—arising in primitive psychology and in the Greek and Oriental mysteries, and entering into philosophy in the divine Love of Plato—divided itself into two currents. One of these kept to the direct methods of absorption, ecstasy, negation of thought in pure feeling; the other showed a growing effort to justify feeling, along with, or in competition with, intellect and will, as an organ of the apprehension of reality. In Jacobi, the latter assumes the form of a reasoned affectivism, and takes its stand, along with intellectualism and voluntarism, as an alternative of reflection.

In the new interest in æsthetics and the growing enthusiasm for fine art, born of Romanticism and appearing at its highest in Goethe, Schiller, and Lessing, another current of affective psychology [1] was also gathering force. It was present in the same generation in the pancalistic suggestions of Kant's *Critique of Judgment*, already spoken of, and reappears, as we shall see, in Schelling and Lotze.

[1] See this heading in Chapter VI, below in this volume.

Part V.

NINETEENTH CENTURY PSYCHOLOGY

Chapter III.

Preliminary Survey—Philosophical Psychology since Kant.

Preliminary Survey.—The nineteenth century has been called the "century of science." This is pre-eminently true, for the physical sciences proper—physics, chemistry, and astronomy—came into their experimental heritage only in the first half of the century; and the biological sciences—zoology, botany, and physiology—acquired their independent position on receiving the impulse of the evolution theory in the second half. The motives already pointed out as naturalism and positivism came slowly into operation. The former involved the recognition of natural law in all the phenomena observed, and the latter the adoption of a strictly observational and experimental method. In the biological sciences the latter step was impossible as long as the "special creation" theory of species was entertained, making use, as it did, of logical principles of classification, and implying a philosophy of uncritical vitalism. The same influences held back the science of psychology—in this case strengthened by the traditional claim of philosophical speculation to solve the problem of the soul.

The nineteenth century opened at a natural pause in the development of theories about the mind. In the flow of the great currents, certain eddies had formed late in the eighteenth century. The dogmatic movement in Germany had passed over into the critical; and Kant had attempted a new æsthetic reconciliation of the dualisms of "reason and practice," and "inner and outer." The Kantian psychology or anthropology is essentially a renewed subjectivism—that is, so far as it is critical. Neither scientific naturalism, nor positivism in the sense defined above, profited greatly from the work of Kant. Indeed, the explicit attempt to refute Hume, in the spirit of the logical critique, throws the weight of Kant as authority—to go no deeper—on the side of an obscurantist attitude toward facts. Historically, also, Kant led the way to what has been called the "romantic movement" from Fichte to Hegel. In Fries and Beneke a reaction sprang up in the direction of the empirical observation of consciousness.[1]

Again, in France an impulse was asserting itself away from the materialism of the sensationalists toward the frank and vital naturalism of J. J. Rousseau. Rousseau's return to the mental life, in all its fulness and immediacy, involved a truer naturalism than the view which ignored the significance of ideas and of the emotional functions in favour of sense-processes.

In England a science of psychology was clearly emerging at the opening of the nineteenth century. Locke had broached his subjective naturalism, which the French sensationalists, as we have seen, developed on one side only. Hobbes was a positivist, in much the same sense for our purposes as Auguste Comte later on.

[1] On these two men see the notices given in Dessoir, *loc. cit.*, pp. 180 ff.

But it was in David Hume that the two requirements of a true science of psychology were consciously present. Hume treats mind as a part of nature: this is naturalism; and he also works at the problem of discovering the laws of mental change by actual observation: this is positivism. In both he is justified by his results; he is further justified by his extraordinary historical influence.

If, then, we are justified in saying that David Hume is one parent of the positive science of psychology—in the sense of the word that places this subject in line with the other natural sciences, both as to its material and as to its method—then we have to look for the other parent to France. Dropping the figure, we may say that Rousseau in France started an essential movement in the development of the science, vague and difficult of definition as Rousseau's personal influence is. Possibly, for reasons to be stated later on, this contribution should be called the Rousseau-Comte factor; as possibly, also, the British contribution should be called the Locke-Hume factor.

The influence of the Rousseau-Comte factor, to-day more undeveloped than the other but showing itself constantly more fertile, may be shown by a further appeal to the analogy with the individual's growth in personal self-consciousness. As an intimation of my meaning, I may refer to the Rousseau-Comte *motif* as the social or "collective," and the Locke-Hume *motif* as the personal or "individual."

Taking up the genetic parallel, we may remark that the positive method applied by Locke, Hume and the Mills *in an individualistic sense,* proved itself to be an inadequate instrument for the interpretation of the psychic material; since it not only neglected—and still

neglects—the social side of life, but by so doing distorted the normal individual mind. In the development of the individual the thought of a separate personal "self" is a late outcome of reflection. The early stages of dualistic thought are thoroughly social. The mind-body dualism is an abstraction in both its terms; "mind" means many minds, and "body" many bodies. The material of self is, in its origin, collective, not individual. The immature child thinks of the self as a term in a social situation, as part of a larger whole.

If this is true, the science of mind must be one in which the concept of an isolated individual mental life is used as a logical abstraction, as an instrument of method rather than as a truth of analysis and explanation. Psychology should be a science in which the material is, so to speak, social rather than individual. This point has been worked out only in recent literature, and still only inadequately; but we may find the source of this type of collectivism in the French thinkers, Rousseau and Comte.

Besides these two great movements, credited respectively to Great Britain and France, modern naturalistic psychology has felt other important impulses. One of these came about the middle of the century in the rise of the evolution theory, and from the side of biological science; another from German beginnings, and from the side of physical science. I shall speak of these respectively under the headings of Genetic Psychology, its pioneers being Lamarck and Darwin, and Mathematical and Experimental Psychology, founded by the Germans, Herbart, Fechner and Lotze.[1]

[1] An interesting work on the German group is G. S. Hall's *Founders of Modern Psychology*, 1912. See also Ribot's *German Psychology of To-Day*.

This properly scientific movement, however, did not supersede or discredit—for the philosophers at least—the rational type of interpretation. A new series of speculations, constituting the romantic movement following Kant, dominated German thought, and penetrated, in the form of Neo-Hegelianism, into England and the United States.[1] While the empirical and positivist movements of the nineteenth century have hallmarks of Franco-British origin, the new metaphysics of thought bears the label "made in Germany."

While these national distinctions are interesting, they cannot be made the headings of historical treatment; for it was the nineteenth century that saw the true internationalisation of science. We will, then, revert to the more intrinsic factors, using the national distinctions only incidentally, in treating of the nineteenth century development (not, however, always under these formal headings, which belong rather to the philosophical schools as such).

I. *Philosophical Psychology since Kant*—
   1. Post-Kantian Idealism and Voluntarism.
   2. Spiritualism, Realism, and Dualism.
   3. The New Monism and Agnosticism (touched upon incidentally only).
   4. Contemporary Immediatism: Æstheticism and Intuitionism (touched upon incidentally).

II. *Scientific Psychology in the Nineteenth Century*, comprising—

[1] In England it produced an extensive school—Green, Caird, Bosanquet, Bradley; in America its most prominent representatives are W. T. Harris and John Watson.

1. As to Method: Positive.
   a. Descriptive.
   b. Constructive.
   c. Genetic.
2. As to Subject-matter: Naturalistic.
   a. Physiological and Experimental Psychology.
   b. Animal and Comparative Psychology.
   c. Social Psychology.
   d. Affective, Æsthetic, and other Contemporary Movements.

I. *Philosophical Psychology since Kant.*—The flood of speculation immediately following Kant tended to subvert the empirical and scientific treatment of the mind. In this movement, however, the concept of the soul, considered as the self or "ego," underwent certain transformations. The recognition of reason as the synthetic and absolute principle asserted itself with variations in Fichte, Schelling, and Hegel.

The pre-eminence assigned to the practical reason, by the author of the *Critiques,* led to the development of voluntarism in Schopenhauer and von Hartmann. In Schleiermacher and Schelling we see the affective motive struggling to assert itself. We have space only to single out the essential psychological conception of each of these philosophers, and state it in a few sentences.[1]

Fichte, J. G. (1762–1814), asserted the immanent, active, and teleological character of the self. It is immanent in all the empirical processes of the mind. This led to a rejection of the faculty conception of the

[1] Among general works, Höffding's *History of Philosophy,* Vol. II, is a late and able exposition.

mental powers, a functional conception being entertained in its stead; to the rejection of the association of ideas as adequate to explain the organisation of mental contents, an active synthetic process being substituted for it; and to the introduction of the genetic idea, interpreted in the sense of a teleological movement. The progress of mind was considered as the active working out of the absolute self-consciousness.

But this absolute self-consciousness is not individual; it is universal, *Bewusstsein überhaupt*. Its movement includes nature as a whole. Nature is a manifestation of free creative self-consciousness. *Im Anfang war die Tat*. The personal soul owes its individual character to the accidental nature of the relation of mind and body. The history of mental development is that of a series of oppositions between the self and the not-self, or "other," which the self posits. The other is a limitation set up over against self-expansion and self-realisation. This opposition shows itself in a series of stages issuing out of the unconscious—sensation, intuition, imaging, thought, and reason. In the active life there is a similar series of stages, from blind impulse up to free and absolute will. Body is the form which the limiting "other" takes on at the stage of sense-intuition. The original term, the *fons et origo* of all, is action, will. Fichte substitutes "I act" for the "I think" of Descartes and the "I feel"[1] of Hume.

In this we discern a psychological doctrine which allows for the results of observation and comprises a genuine genetic movement in the development of consciousness; but only, it is true, as the outcome of the rational presuppositions of absolute voluntarism. It has been called a psychology "from above," as that

[1] Understood as "I sense," or "I have a sensation."

of the materialists is a psychology "from below." Mental processes are not observed, in the first instance, as facts, as scientific data; but as illustrations and evidences of the movement of a metaphysical principle of reality. As to its historical antecedents, we find here a renewal of the voluntarism of St. Augustine and Duns Scotus, and the development of the suggestion contained in the *Critique of Practical Reason.*

The same holds of the psychological views of Schelling and Hegel. They interpreted psychological processes heroically, romantically; life is an incident in the epic of the Absolute.

Schelling, F. W. J. (1775–1854), places greater emphasis on the evolution of nature, which is a sort of prehistoric chapter in the history. Unconscious spirit (*Seele*) has not yet passed into free and conscious mind (*Geist*): it slumbers in nature. The inorganic has in it the principle of self-consciousness, which goes on to be realised as consciousness in the organic and in man. The series of stages in the development of the mental principle are, with minor variations, those pointed out by Fichte.

The outcome of the teleological process of self-consciousness is, however, for Schelling, not thought or will, but their union in æsthetic construction and contemplation. Schelling carries further the hint given by Kant in the *Urteilskraft,* and which we have described above, using the term "pancalism." Art production to Schelling unites the theoretical motives of science and logic with the practical motives of life and conduct. Artistic creation goes beyond the mere reproductive and schematising imagination, and produces a work which fulfils at once all the partial ideals of the more special functions of the self. In it the oppositions of

nature and mind, self and not-self, are overcome. Schelling gives to this æsthetic reconciliation an ontological value, rather in the spirit of Plato than in that of the experiential objectivity of Kant.[1]

In brief, Schelling teaches the radically functional nature of mental process. The inner life is a ceaseless movement of change, becoming (*Werden*). To this process the movement of the absolute self-consciousness gives teleological character: here is the refutation of all mechanical analogies and explanations. The consummation of the process, for psychology, is the production and appreciation of art.

In *Hegel, G. W. F.* (1770–1831), psychology both gains and loses ground. It loses by the development of absolutism into a theory of an impersonal rational principle. Mind interpreted as thought (*Geist*) objectifies itself in the world, and shows itself subjective in the individual mind. Objective mind, subjective mind, and absolute mind are the forms that the one principle takes on in the course of its evolution. For the interpretation of human history and natural history alike, a dialectical process of thought replaces the empirical laws of nature and mind. The saying of Schelling that

[1] Dessoir (*loc. cit.*, p. 65 f.) gives a full note on this position of Schelling; he says: "The theoretical and the practical, reason and sense, nature and mind, unconscious and conscious, lose their oppositions in art, which is the highest activity of the self. Above and beyond theoretical knowledge and practical need is the spiritual enjoyment of beauty, just as beyond both forms of striving, the artistic phantasy proceeds, a heavenly faculty, which has nothing in common with the prosaic 'imagination' of the old psychology." In the present writer's volume, *Interest and Art* (Vol. III of *Thought and Things*), a detailed research is instituted in the psychology of the æsthetic experience, and the results are interpreted in an empirical pancalistic theory (to be developed in Vol. IV) which gives support to these speculative conclusions of Schelling. Cf. also *The Psychological Review*, May 1908.

the phenomenal event or law of consciousness is "only the monument and record" (*Denkmal and Dokument*) of the real, is literally carried out in the theory of Hegel.

Psychology loses by this in the sense that rational oppositions and logical rules are read into all the processes of the mind: the event means thought, whether or not it shows itself to be thought. The lower functions, even those of sense, are interpreted as embodying —potentially, if not in actual form; implicitly, if not explicitly—the character of logical process. Feeling to Hegel, as to Leibnitz, is a mode of obscure knowledge. This tendency has been brought out, free from all ambiguity, in the writings of the Neo-Hegelian school in England, led by T. H. Green of Oxford, who makes the essence of the real a "standing in relations" which are constituted by thought as well as cognised by it. Pre-logical consciousness is informed with self-consciousness. Sensation is immature thought.[1]

On this view, a genuine evolution, a creative evolution, in the historical development of the mind or in that of nature, is impossible. There can be merely a "becoming," which means a *becoming explicit,* an *energeia* already assumed to be present in *dunamis.*

But psychology gained through the work of Hegel as compared with that of Fichte. The very abstractness and absoluteness of Hegel's principle of thought renders it comparatively innocuous. Like Spinoza's substance, being incapable of definition, it is susceptible of all possible predications. A notion that becomes infinitely thin in intension becomes also infinitely broad in exten-

[1] The works of Edward Caird in philosophy and of Hobhouse in psychology show this rationalising of the lower functions of consciousness.

sion. This shows itself *en germe* in Hegel's psychology as well as in his exposition of history. He works out, in the *Phenomenology of Mind*,[1] a genetic psychology in the sense of the schemes of Fichte and Schelling; but it is more free from the intrusion of rationalistic assumptions. He is able to recognise the results of empirical research—the laws of association, the modes of origin and development of thought, etc.—since the presuppositions of the entire movement are not material, but formal and teleological.[2]

Once acknowledge that, whatever may happen, thought is realising itself by an inner dialectical law of its own nature—and anything may happen![3] Hegel himself was more hospitable to scientific and positive psychology than are many of his followers, who are unable to tolerate the suggestion of an actual empirical derivation of the forms of thought. With them, as with Fichte and Schelling, thought has not entered into its full Hegelian heritage of abstractness.

Nevertheless, Hegel held that such a psychology, anthropological and phenomenal, was in no sense explanatory.[4] The teleological movement of thought,

[1] Hegel, *Die Phenomenologie des Geistes.*

[2] Schelling, on the contrary, considered the soul as material, no less than formal and final cause (cf. Harms, *loc. cit.*, p. 360) of the entire cosmic process, of which it became the "microcosmus," a picture of the whole.

[3] If in accordance with the famous saying of Hegel, *Sein gleicht Nichts*, "being equals nothing," then no "something," no phenomenal fact, can contradict being. But this is to say that, for scientific and psychological purposes, the *pure Hegel equals Hume.* This tendency of absolutism to become abstract appears in later forms of voluntarism also (as in Rickert and Münsterberg), in which full dominion over the world of fact is given to science, the philosophical reservation of an absolute value not interfering with it.

[4] *Anthropologie* was for Hegel the science of the mind as interpreting the first level, that of feeling, which included all that

through the entire series of modes of mental process, is for him the only explanation. No third alternative exists between the purely mechanical and the teleological interpretations. The theory of radical evolution, according to which novelties may be produced, new genetic creations, in the course of a purely natural movement of development, was not then in evidence. To Hegel and his followers formal cause—using the terms of Aristotle—is necessarily associated with final cause. The only explanatory psychology to Hegel was that which deals with the third and highest stage of mental development, the stage of freedom, which is the synthesis of idea and will. In this the absolute principle of thought, the immanent cause of the entire movement, achieves its end.

In the modern psychology of "form-quality" and "complexes," [1] however, and in the recent development of genetic logic, the problems of the nature and origins of form are isolated from those of finality. In biology, also, morphology is no longer committed in advance to a teleological view of the life-process. So also in the "opposition" made the motive of advance from mode to mode of mental life in the Hegelian dialectic, we may

feeling might imply individually and in racial culture (the mind in its relation to body). *Phenomenologie* was the theory of mind in the second stage, that of "subjective mind," *i.e.*, consciousness, together with its explicit mode self-consciousness, and the functions of intelligence, knowledge, and reason. The third stage, that of freedom, is the matter of *Psychologie*, as is noted further on in the text. Over against all this, the history of "subjective mind," there is that of "objective mind," active in nature and embodied in social institutions, in morality, in the state, etc. Finally, we come to "absolute mind," realising itself in art and religion, and in their synthesis in absolute knowledge. This last is the domain of the free development of science and philosophy.

[1] Developed by the Austrian school of psychologists in recent years. See Höfler, *Psychologie*.

see a formal rendering of the experiences of embarrassment, perplexity and urgency of adaptation, made much of in the modern genetic theories.

In short, Hegel's psychology presents to us a sort of shadowy, abstract and formal simulacrum of the positive genetic movement of the mental life. It permits science, but it hardly advances it. The kinship of Hegel's genetic view to Aristotle's is plain[1]; but to many minds there is no question that the latter's biological interpretation of the relation of matter and form is more fruitful than the purely logical one of Hegel.

Throughout this, the heroic period of German speculation, certain psychological points of view were incidentally placed in evidence. The genetic conception came to supersede the theory of faculties in both its forms, critical and dogmatic. The conception of the one ultimate and irreducible psychic function replaced the notion of an original "element" or content. For Fichte, this function was will; for Schelling, synthetic intuition or feeling; for Hegel, thought. Thus the alternatives of later functional theory were all suggested—those of intellectualism, voluntarism and affectivism.

The theory of unconscious mind anticipated later views, both psychological and metaphysical.

Moreover, the teleological conception went with the functional, in opposition to the mechanical and structural. In this the modern issue between apperceptionism, in its various forms, and presentationism, also in many forms, was clearly drawn. But these questions were not discussed for themselves. They were resolved incidentally in the development of deductive systems.

Schleiermacher, F. E. D. (1768–1834). Later German

[1] Cf. the citation from Hegel (*Encyclopädie*, Par. 378) made by Klemm, *loc. cit.*, p. 70.

views consisted largely of re-statements of these positions. Schleiermacher drew attention again to the actual concomitance of mind and body, and founded the distinction between receptive and active or "spontaneous" functions upon the physiological distinction between excitation and movement. In tracing the two sides of the mental life, knowledge and practice, he distinguished in each the aspect which refers to external objects from that which refers to the self; and under the latter heading gave an important place to feeling and sentiment. Sentiment is the sphere in which the powers are no longer held to concrete objects, but establish the ideals of art, morals, and religion. Art production is a free autotelic development on the side of the spontaneous powers. The analysis of religious emotion into feelings of dependence and feelings of awe or reverence has remained a contribution to the psychology of religion.

In *Arthur Schopenhauer* (1788–1860) the priority of will becomes fixed in a metaphysical system of voluntarism. Unconscious will is the active principle of nature. Intelligence enters into consciousness as an accompaniment of brain organisation. It is only in *E. von Hartmann* (1842–1906), however, that the voluntaristic theory allies itself positively with science, seeking systematic confirmation of the presence of will in nature. It is found in the show of instinct and animal impulse throughout the living world. With von Hartmann, as with Schopenhauer, the doctrines of will and the unconscious go hand in hand.

Spiritualism in England.—While in Germany the Kantian criticism dominated thought, being the weapon of the opposition to Hume, in England and France this opposition took on the form of a new spiritualism.

The "moral philosophy" of England, the "natural realism" of Scotland, and "psychological voluntarism" of France, all made use of a spiritual concept of the mind. The soul was a personal principle, not a mere bundle of states.

The English moral philosophy took up the problem from the point of view of ethics, attempting to point out the original springs of action and to define certain native "instincts" and "propensities." This set a new fashion: it brought into disfavour the treatment of the moral life in a subordinate way and as secondary to the intellectual. The questions of the moral end, the moral motive and sanction, moral sympathy, etc., suggested an investigation of passion and sentiment in all its range. In the writings of Shaftesbury, Hutcheson, Clarke, and Adam Smith this investigation was conducted with fruitful results for psychology no less than ethics. By this examination of the practical and emotional life the foundations were laid in psychology for the utilitarian and intuitional ethics. For both of these moral systems are empirical and psychological, in contrast with the rational and formal theories which had been developed in Germany.

Anthony Ashley Cooper, Earl of *Shaftesbury* (1671–1713), met the adversary by a direct mental analysis. He showed, as against Hobbes, that sensation was not the only source of knowledge; and as against the disciples of Hobbes, that all action was not prompted by self-love. On the other hand, the analysis of sympathy and of the altruistic impulses by the utilitarian thinkers (Adam Smith, Bentham) carried on the tradition of self-love descended from Hobbes. In later utilitarianism (Spencer, L. Stephen) the moral imperative was grounded in habit and racial custom, by an

analysis which made a beginning in the direction of social psychology.

The same interest in the practical life led to the distinction of the moral from the æsthetic and intellectual sentiments. Home pointed out the contemplative character of æsthetic enjoyment, by which it was contrasted with the active movements of the passions; and Hutcheson worked out a theory of the beautiful. The resort to immediate intuition corresponded, in the intellectual life, to the recognition of these original instincts and tendencies in the affective life, practical and sentimental, and became, under the name of "common sense," the catch-word of the Scottish school of spiritualistic dualists.

Scottish Natural Realism.—The Scottish realists restored, in a sense, the "faculty conception" in psychology, by their doctrine of common sense or mental "instinct"; for the multiplication of the sources of original intuition, primitive knowledge, direct apprehension, etc., closed the door to more thorough analysis, and left each "power" or faculty standing on its own feet. The direct appeal to consciousness, however superficial the scrutiny of consciousness might be, came to have the value of finality. Only the most compelling results of preceding analysis—such as the distinction between the primary and secondary qualities of matter—were reckoned with. The Scots gained a certain breadth and liberality of observation from this; but at the cost of being led to take things for what they seem, and of running the risk of the pitfall of superficiality—the one crime in philosophy![1]

[1] It appears that the theological interest in natural realism and the philosophy of common sense had much to do with their currency. Dogmatic spiritualism was the theory of the soul

Thomas Reid (1710–1796), the founder of this school, has the significance of having restored—for a considerable career—a dogmatic dualism. Psychology profited by this in that it awoke from its dream of extreme subjectivism. One immediate result was the further extension of the theory of association of ideas. In the works of Thomas Brown and Dugald Stewart, together with those of James Mill and his son John Stuart Mill, not to go further, the laws of association were extended in detail to feelings and states of activity. It was brought out in the course of refined and fruitful analyses of the "cognitive powers" and "motive powers"—a two-fold classification of functions which restored that of Aristotle. Brown, treating association under the heading of "suggestion," made common elements of feeling the link between associated ideas.

Later Associationism in England.—James Mill (1773–1836) developed a systematic psychology on the basis of sensation, the single original mental element; and association, the single principle of organisation, of which contiguity was the fundamental form. In this James Mill supported the sensationalism of Condillac with great breadth and accuracy of observation.

Sir William Hamilton (1788–1856)[1] reduced the laws of association to one, that of "redintegration"; the parts of an original whole tend to be re-integrated again, or restored to their original form, on being

taught by Christian theology. This appears especially in the form in which philosophy and psychology were imported from Scotland to America and maintained there up to about 1880. Noah Porter and James McCosh were exponents of official psychology in the Universities, and both were Reformed clergymen.

[1] Hamilton's erudition was remarkable. His pages retain a further value by reason of their very full—if not always accurate—historical summaries and citations.

separately revived; each part calls up other parts. This is substantially a repetition of the formula of Christian Wolff. Hamilton, also, having a knowledge of the German idealists, recognised more adequately than others of the Scottish school, to which he belonged, the subjective factors of perception and knowledge.

In *John Stuart Mill* (1806–1873) a new departure appears in British thought, inasmuch as in him the influence of Comte began to show itself. Stuart Mill absorbed the philosophical agnosticism of the Comtean view, and led the British Positivist movement; but his psychology failed—more than his logic and ethics—to absorb the social or collectivist motive with which the teaching of Comte was informed. The influence of Stuart Mill upon English thought has been enormous—perhaps second only to that of Hume—but his positive theories are in the realms of scientific method and inductive logic, and of the utilitarian ethics; not in that of psychology proper.[1]

French Spiritualism.—The movement in France took on at first a more original form than in England—that of a voluntarism proceeding upon the psychology of the active life.

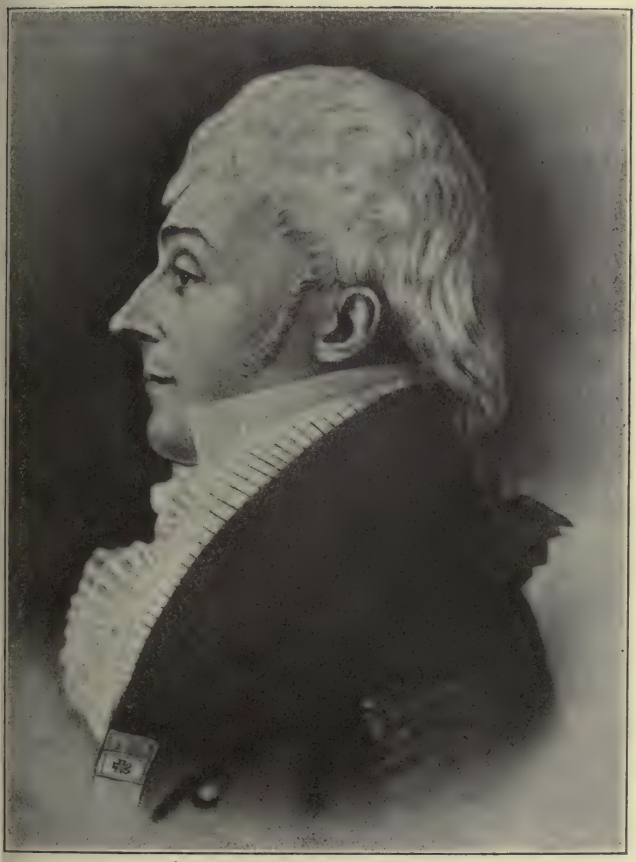
[1] It is a sorry fact for psychology in Britain that both the movements of philosophical thought by which speculative and practical interests have been recently directed—Comteism and Neo-Hegelianism—were foreign importations, which obscured for the time the clear British psychological vision and deadened its sound tradition. Only just now, after much travail, has psychology found a place in the universities, and it still lives on the crumbs that fall from the table of logic and metaphysics. It is extraordinary that the country of Bacon, Locke, and Hume should not have been the first to welcome the experimental treatment of the mind. The empirical tradition in its descriptive form was, however, maintained by Bain and Shadworth Hodgson, both referred to again.

Pierre Laromiguière, Maine de Biran, and T. S. Jouffroy analysed volition and found a primitive "sense of effort," much in the sense of that pointed out by Locke. With this weapon they combated the sensationalistic analyses of Condillac and Berkeley, and opposed the prevalent agnosticism.

Laromiguière (1756–1837) supplemented the narrower view of sensation by the recognition of feeling, which extended, as he said, to the consciousness of cognitive and volitional processes. He isolated "feelings of relation" and "moral feelings." The sense of mental activity resided in the attention, on the intellectual side, as well as in the original effort or impulse, on the voluntary side. It is in the attention that the cognitive processes of comparison and judgment take place.

The beginning of the study of the attention by Condillac and Laromiguière is noteworthy. The attention is the citadel of spiritual and activity theories of mental process in modern psychology; and it is astonishing that it remained so long outside the range of interest. Condillac interpreted the attention in terms of the inhibition of other sensations by the high intensity of the one attented to; an anticipation of the "intensity" theory of attention as held to-day. Laromiguière, on the contrary, asserted the active character of attention, giving the cue to later functional and "motor" theories. From these beginnings the rôle of attention has become one of the central problems of modern philosophical and descriptive psychology.

Maine de Biran (1776–1824) followed with a definite psychological voluntarism. He proceeded from the Augustinian postulate *volens sum*, founding this intuition upon the opposition felt in experiences of voluntary effort against resistance. He went further than Laro-



MAINE DE BIRAN.

miguière in developing what have been called the "dynamic categories"[1]—force, cause, substance, etc. —from these original experiences of personal activity. This is, in its results, in sharp contrast with the Humian derivation of these ideas; but it employs the weapons of Hume, since it reposes upon the activities which Hume summarised in his theory of habit. If we say with Hume that habit is that element by which psychic contents are bound together in unity and connection, then we may go on to a further analysis of habit on the functional side. This is the procedure of certain modern psychologists who agree with Hume that habit results in a solidification of contents; by these psychologists, habit in turn is analysed into modes of synergy and assimilation in "motor processes," to which perhaps the attention itself is originally due.

In *Jouffroy* (1796–1842) a further development followed, not so much in the way of increased system as in that of increased vitality, through the presence of a certain romanticism and impressionism. Jouffroy might be called the Rousseau of spiritualism, so similar is his call "back to life" to that of the great thinker of Geneva. Both uttered the sentimental equivalent of the logical demand of the formalists, "back to Kant." And the two movements, sentimental and formal, stirred up the positive spirit of science in the person of Auguste Comte. The same spirit had been stirred up similarly in the person of Francis Bacon.

In this interesting departure of French voluntarism, a contribution was made to psychology different from that made by the British moral philosophers, although they have points in common. Both emphasise the

[1] Cf. Ormond, *The Foundations of Knowledge*, Chaps. V and VIII, who carries out the same sort of analysis with great power.

affective and volitional life, both suggest functional considerations over against structural, and each implies in a certain way a faculty theory. But the French development was perhaps more profound and lasting in its influence, since it issued in points of view more important for psychology than those of natural instinct and common sense. The most fruitful result, indeed, of the moral-sense movement in England was the laying of the psychological foundation of utilitarianism; but this was a departure from the spiritualistic assumption in the direction of naturalism.

In France the period closed with an Eclecticism [1] which borrowed directly from the natural realism of Scotland. In France, too, as in England, this was made the ecclesiastical weapon against free thought.

[1] Imposed with authority upon official French thought by Victor Cousin and Paul Janet until the rebirth of speculation in Renouvier.

Chapter IV.

Scientific Psychology in the Nineteenth Century. General Points of View.

I. *The Positive Method.*—We have now followed the development of the philosophical views which arose in opposition to the naturalistic interpretation of the mind: the speculative theories of Germany, and the psychological theories of England and France. The speculative theories allowed greater liberty to science as such, since they gave themselves to the interpretation of facts in a larger world-view, not to the observing or selecting of facts in the pursuit of special interests. On the other hand, such special interests—the interests of spiritualism, morals, theology—were controlling in the English and French movements; and for that reason their opposition to a thorough-going psychological naturalism was sharper and more persistent.

Understanding that these special motives were in a large sense practical, we may say that in France such practical interests, especially in their vested forms, ecclesiastical and political, suffered a destructive shock in the Revolution. As a consequence, radically new possibilities of reconstruction were opened up in science as in other lines of endeavour. The victory of psychological naturalism was accordingly more rapid in France than in England or Germany. The impulse given to thought in France by the subjectivism and romantic

naturalism of Rousseau was lacking elsewhere. If we take the theological interest as typical for our purposes, we are not slow to observe this national difference in high relief. In France, the theological bias and restraint were done away with in scientific circles through the violent reaction from the Roman Church to free-thought; and positive methods of reconstruction were in demand. The Church survived as a practical cult—a conventional and æsthetic instrument—not as a theory nor as a restraint upon thought. Positive solutions were sought for everywhere, even substitutes for the deposed theology. Witness Comte's proposal of the Religion of Humanity.

In England, Germany and America, however, the relative satisfaction of the need of freedom of mind and conscience, achieved in the Reformation, left the citadel of theological interest still standing and still manned by defenders to whom the spiritual attributes of the soul were dear. Consequently the spirited and sustained opposition in these countries to naturalistic conceptions which seemed to endanger this view of the soul. The biological sciences encountered it in the form of an alliance of theology with vitalism in the interest of teleology; and in the opposition made to Darwinism in the interest of the dogma of "special creation." [1] How much the more did psychology have to fight its battles for a science of mind considered as a natural thing, found in the body, and subject to psycho-physical laws!

In *Jean Jacques Rousseau* (1712–1778) two motives

[1] Mr. A. W. Benn makes the suggestion that it was an analogous influence, the currency of the theogony of Hesiod, that prevented the spread of the evolution theory after its early start among the Greeks (*History of Ancient Philosophy*, p. 38).

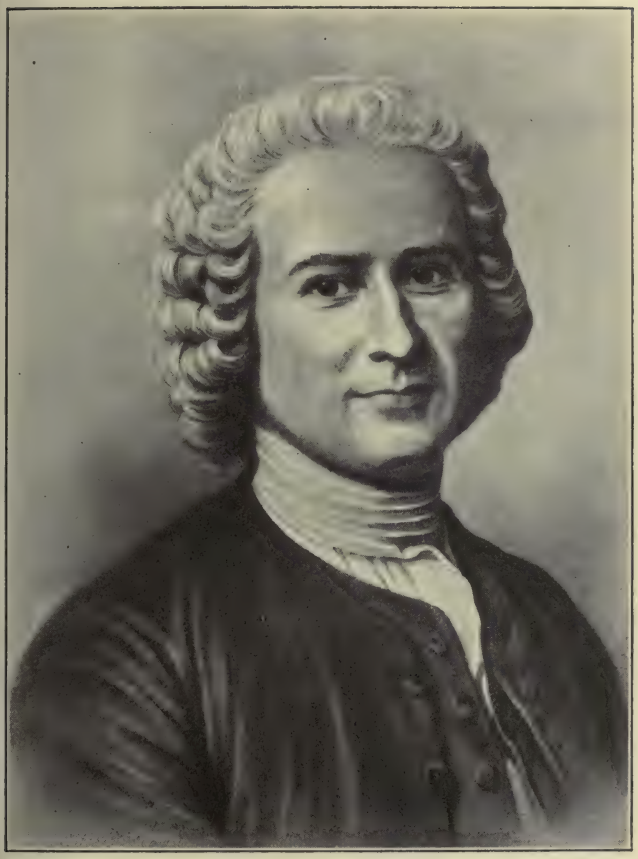
appear which are in a certain opposition to each other. The one is that of personal freedom, individualism, the larger naturalism of a full and unrestrained life. This is the dominant note of the "liberty, equality, fraternity," of the French Revolution. It showed itself in the *Émile* and the *Confessions*. The second motive is a distinctly social and collectivistic one, represented in the *Social Contract* and the theory of the "general will." It is the latter of these motives, the social, that remained so long undeveloped. To bring out its import was, and is, the task of later men.

In *Auguste Comte* (1798–1857) positivism of method reached its full statement. He called his first great work *Cours de Philosophie positive,* conceiving philosophy as the systematisation of "positive" or experimental science. Nothing beyond this, no metaphysics[1] as such, was possible. Philosophy being thus limited to the recognition of those sciences in which an experimental method could be employed, psychology considered as an independent science was excluded.[2]

Comte did not intend, however, to exclude the facts of psychology; he only insisted on their being referred to a science in which the positive method was possible. This led him to objectivise the inner world for scientific treatment, and to look upon it as it may be observed

[1] The epoch of positive science follows that of metaphysics, as this in turn follows that of theology, according to Comte's "law of the three stages" in the evolution of thought. Metaphysics is a premature, and in its results abortive, effort to interpret the world. In this, Comte gave to later Positivists a sort of excuse, but not a reason, for the shallow verbal anathemas directed by some of them against speculative thought. See the *Biographical History of Philosophy,* by G. H. Lewes, for an example of this attitude.

[2] We cannot dwell upon Comte's famous classification of the sciences. He had the advantage of knowing Bacon's scheme, which had been adopted by the editors of the *Encyclopædia.*



JEAN JACQUES ROUSSEAU.

in its actual operation in the social life. "Sociology" —a word due to Comte—was to comprise all the sciences of the intercourse and interaction of men, their minds being the centre of such interaction. Thus the mental as such, while not presenting a sphere open to positive treatment, nevertheless offered its data to the science of sociology.

In this programme of a sociology, we may forsee the re-establishment of the collective values jeopardised by the individualism of Rousseau. Humanity was to be the summary of these values and sociology its theory.

An analogy of interests suggests itself between this procedure of Comte and the somewhat similar objective way of treating mental facts by Aristotle. The latter associated the mind not with society, but with the physical organism, in such a way that while the subjective point of view was not lost, it was still merged theoretically in the objective, in his case, the biological. Mental functions were classed with physiological. Comte treats the mind similarly, except that it is the social body, rather than the physical body, in which he finds the sufficient objective and positive support for the events of consciousness.

In Comte as in Bacon the practical and the methodological were prominent; and he was urged on to justify the sort of naturalism in which these two motives issued. This led him to assert the essential fragmentariness and capriciousness of the psychic as such;[1] while he should have held to a larger natural-

[1] His inconsistency is seen in his appeal to Kant's relativism of knowledge to refute metaphysics, while using the objective order to refute the subjective point of view of Condillac and the spiritualists.

ism, within the conception of which the external and the psychic might develop each its own positive method. Of course, it is no reconciliation of two terms to deny one of them; and such a procedure has not the merit of the æsthetic synthesis which we find in the great monistic systems. Nevertheless, the assertion of the universal range of positive method was of the first importance. It carried forward one of the great motives of the history of science.

The gain of the Positivism—now technically so named—of Comte, accrued to science in general, not directly to psychology. The spirit of his teaching awaited its working out in a later generation. It was to the profit of sociology; for the negative answer to the question of a positive psychology went with the affirmative answer to that of a social science. The "positive" bearing of Positivism comes out, therefore, in two ways: first, as announcing a general method; and second, as preparing the way for a social science including social psychology. Comte was original mainly on the latter point, since in the former he followed Francis Bacon, suggesting for his own time the method that Bacon had described as that necessary for the "restoration of science."

II. *Psycho-physical Parallelism.*—It is evident that no permanent adjustment of interests as between spiritualism and materialism is possible so long as a theory of causal interaction between mind and body prevails. If pure spiritualism is right, a science of uniformities in mental process is impossible—as is also a physiology of the brain. The capricious interferences of the soul could not be reduced to law. But on the other hand, if brain states and their laws of organisation are to

impose their mode of necessity upon the inner life, then psychology may at once close its doors. Mental phenomena would vacate their claim to any characters or procedures worth investigating. Why observe them?—why not go directly to the brain? The automaton theory of Descartes is extended to the entire human animal.

The only possible way, therefore, to secure a truce, in which psychology may retain a strip of neutral territory for its own independent use, is that which adopts, or pretends to adopt, complete agnosticism on the question of the psycho-physical relation. Giving up or ignoring altogether the question of cause as between mind and body, we may investigate the mental and the physiological each for itself, grounding the two sciences respectively in the two distinct points of view.

This is the positive programme of which the theory of psycho-physical parallelism is a part. The mental life runs parallel to the cerebral, term for term in a "one to one correspondence," so to speak; but intercourse across the line is limited to a fraternal handshake.

This principle has taken on various forms of statement. The "double-aspect theory" of the English positivists, Clifford, Lewes, H. Spencer, makes the empty reservation that after all the basis of the parallelism is a substantial unity of some sort, itself perhaps unknowable—a reservation that "saves the face" of Positivism by seeming to ward off the charge of materialism. This charge is frankly accepted, on the other hand, by those, such as Maudsley, who accept the "epiphenomenon" theory of consciousness; to them consciousness is merely a by-product, a spark thrown

off by the engine, the brain.[1] Later phases of scientific monism—seen in K. Pearson, Mach, Poincaré—reduce all science to formulas of phenomenal and instrumental value. The data of psychology and physiology alike are merged in a larger whole of relative and utilitarian import.

With the evolution theory, involving a racial descent of mind and body together in the tree of life, the demand has come for the extension of the principle of parallelism to the entire series of animal forms, each type of brain having just and only the mind that goes with that brain. So evolution becomes psycho-physical in its character. Darwin and Romanes proceeded upon this assumption, which has since had explicit formulation.[2]

In such a parallelism, psychology avails itself of the liberty allowed by the old doctrine of "occasionalism" of Malebranche, and that of the identity of modes of the theory of Spinoza. Other late philosophical attempts to interpret the principle are those of Herbart and Lotze, the one in the spirit of Leibnitz, the other in the interest of a refined spiritualism.

Herbart, J. F. (1776–1831), worked out a doctrine which, superficially considered, suggests a new eclecticism. But this is only on the surface; for in the result his psychological views became of great influence. Adopting an atomistic point of view, similar to that of the monad theory of Leibnitz, Herbart postulated what

[1] H. Maudsley, *Physiology and Pathology of Mind* (1867): "The unity of the mind is merely the organic unity of the brain." See also Maudsley in *Mind*, No. 54, examined by the present writer in *Mind*, Oct., 1889.

[2] Cf. the writer's *Development and Evolution* (1902), Chap. I.

he called "reals" or first elements. The soul is a "real," whose original active inertia (*Selbsterhaltung*) shows itself in presentation. The entire phenomenal world is one of presentation (*Vorstellen*). Having thus a common character, nature and mind are subject to the same system of laws and principles of organisation. From this it follows that strictly mechanical processes —cause and effect, composition and resolution of forces, etc.—are operative in the play of presentations or ideas (*Vorstellungen*). We thus reach a somewhat surprising result—surprising considering the nature of the "reals"—a "mechanics of ideas," developed mathematically, which has become the typical case of pure "presentationism" in modern psychology. The apparent inconsequence is due, of course, to Herbart's having gone to mechanical science for the method and principle of organisation, while advocating the point of view of the psychical in the theory of the matter of the science.

It is in its view of the method of mental organisation, therefore, that the psychology of Herbart has its great interest. It is the legitimate successor of associationism. But it "goes the associationists one better," since it brings into the play of ideas a dynamic and quantitative factor. Like associationism, it also bears destructively on all forms of the faculty psychology; the one "mechanics" replaces the different powers and activities of the mind. Memory, for example, is only the reappearance of presentations under dynamic and mechanical conditions. Herbart passed a destructive criticism upon the faculty theory.

On this conception, ideas become "forces" that push and pull. When forced out of the lime-light of the attention—the focus of greatest intensity—an idea still

JOHANN FRIEDRICH HERBART.

remains active, exerting its force and ready to appear when the inhibitions from other ideas are released and a new equilibrium is established. No experience is ever lost; all presentations are persistent (*selbsterhaltend*) in the unconscious, the dark cavern of the soul. The state of mind of the moment is one of relative equilibrium among these "idea-forces;"[1] it may be, will be, changed by any new experience that modifies the equilibrium. Some other idea will be reinforced, a new set of tensions and inhibitions set up, and the process will again repeat itself. The mental life is thus a constant play of forces in action.

The principles operative, according to Herbart, in this play of ideas are those of "persistence," or inertia (*Selbsterhaltung*), "fusion" (*Verschmelzung*), and "inhibition" (*Hemmung*). Under the rule of these principles the ideas form systems, which cohere in masses (*Apperceptionsmassen*) in the mental life, and assimilate to themselves incoming ideas. The higher states are complexes, showing varying degrees of fusion among their constituent parts. A new idea, entering into a mass to reinforce it, is said to be "apperceived" by that mass. By this mechanical view, Herbart replaces the functional conception of apperception of Leibnitz and Kant; it is now not the "self" or mental principle that apperceives a content, but one content that apperceives another.

The other great feature of Herbartianism is its strict "intellectualism." By presentation or idea (*Vorstellung*) Herbart means, as German psychology always means, a cognitive unit, image, or idea; something

[1] The expression used by Fouillée, *La Psychologie des Idées-forces*, a writer who interpreted the dynamics of ideas less mechanically and also less intellectualistically than Herbart.

presented to the mind, having objective character, not something felt or willed. These latter aspects of the mental life, covered in German by the term *Gemüth*, are for Herbart derived, not original: they are functions of the play of presentations and depend upon that. Will is the consciousness of the dynamic side of the play of ideas—the tension of the idea toward clear presentation, its reaction against inhibition. When such a tension exists below the "threshold" of consciousness, there is "impulse" (*Streben*); when the idea is consciously inhibited, there is "desire" (*Begehren*); when it is released by the idea of the end of satisfaction, desire passes into "volition" (*Wollen*).

Feeling is the consciousness of the resulting conditions—of success, failure, equilibrium, compromise or balance, in this continuous rivalry of ideas. The functions of feeling and will have no laws of independent movement and organisation; they merely reflect the stage of movement, the *status quo*, of the intellectual forces at work. Here we see the extreme rationalising of feeling and emotion from which modern psychology is only just now freeing itself, through the organic and autonomous theories of James and Ribot spoken of below.

Consciousness becomes again, as in British empiricism, the mere theatre or *Lokal* of the mechanical play of presentations. It has a high degree of clearness in the conditions of intensity attaching to the presentation mass at the time in the focus of attention; it is relatively obscure at the margin, where presentations are held in check; and it has a threshold [1]—a sort of "stoop"—below which presentations sink into the un-

[1] A conception made more definite in later experimental research.

conscious. Consciousness is not functional; it is not a character of an active self. On the contrary, the self —the empirical self known in consciousness—is a complex like other complexes, a mass of contents, a system of presentations, acting like other systems. Attention to this mass gives it standing in the limelight, like attention to other masses; but attention itself is merely evidence of the dynamic activity of the mass attended to. Here we find Hume's "bundle of ideas" consciously and deliberately tied up with the mechanical cord.[1]

Among the special theories of Herbart, that of the empirical origin of space perception (a case of fusion of spaceless data) is important; it leads on to the genetic and local-sign theories of Helmholtz and Lotze.

With Herbart, a school was founded—its members called Herbartians—in whose writings the systematic exposition of empirical psychology in general textbooks began to be made. George, Waitz, Drobisch, Volkmann,[2] and from a modified point of view Lipps, published important works going systematically over the field of psychology. With them—as with Bain in English and Taine in French[3]—the domain of the descriptive science becomes so broad, and its details so complex, that a brief summary is impossible. We

[1] The presentationist view of to-day—as seen for example in the theory of the self of F. H. Bradley—essentially restates Herbart's view, leaving out, however, the terms of the strictly mechanical conception. See F. H. Bradley, *Appearance and Reality*, 2nd ed. (1897), Chaps. IX, X.

[2] The *Lehrbuch der Psychologie* of Volkmann von Volkmar (4th ed., 1894–5) has an additional element of permanent value in its rich literary citations and book lists.

[3] Both are associationists and empiricists. See H. Taine, *L'Intelligence* (1870), and A. Bain, *Senses and Intellect* (1855), and *Emotions and Will* (1859).

accordingly confine ourselves—as in other cases to be mentioned below—to the summary indication of the general characteristics of the school.

Herbart's psychology has become influential also in educational theory. A large group of writers have followed his leading in applying the theory of apperception as he conceived it to pedagogy. Within the Herbartian circle also—particularly in the writings of Waitz [1] and Steinthal—an early attempt was made to isolate the problem of racial psychology (*Völkerpsychologie*).

Hermann Lotze (1817–1881) represents the form taken on by modern spiritualism when founded upon inductive and analytic psychology.[2] He discusses the alternative solutions of the great problems of interpretation raised by scientific knowledge and method with remarkable balance, fairness, and judicial acumen: space, time, cause, substance, the self. His philosophical conclusions are those of a man who has not only contributed to scientific psychology, but who emphasises its rôle as the fundamental science. His book on *Logic* is one of the classics of the new "psychologistic" treatment of thought.

Lotze's work on "medical psychology" [3] entitled him to be called one of the founders of physiological psychology. He held to a theory of the relation be-

[1] Th. Waitz, *Anthropologie der Naturvölker*, 6 vols. (1870–1877).

[2] It is the beginning of the series of attempts to construct a spiritualist metaphysics upon empirical psychology—as those of James Ward (*Naturalism and Agnosticism*, 1899) in England, and those of G. T. Ladd (*Philosophy of Mind*, 1895), and A. T. Ormond (*Foundations of Knowledge*, 1900), in the United States.

[3] H. Lotze, *Die medizinische Psychologie, oder die Physiologie der Seele* (1852).

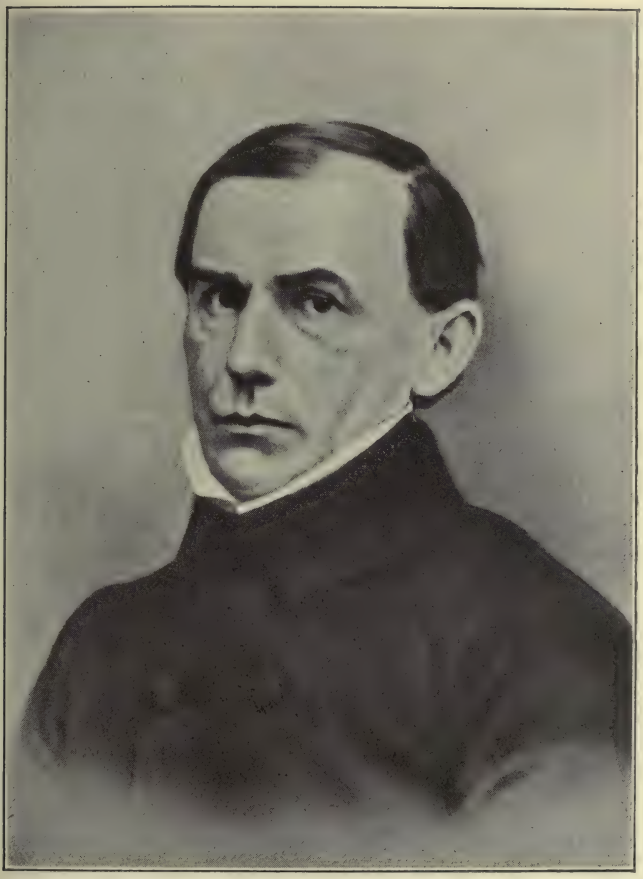
tween mind and body by which, as he thought, the criticisms brought against the interaction theory could be met without adopting a strict parallelism. The act of will was causally effective in voluntary movement, as was the stimulation of sense upon the mind; but both were limited in their effects to the restricted system of psycho-physical changes.

In a noteworthy analysis of cause and effect, including all change in the physical world,[1] he showed the impossibility of purely mechanical action, that is, action due to impact as such. The mere contact of two spatially separated bodies cannot result in the transfer of anything from one to the other; and the same is true of the ultimate organisation of the elements or atoms which constitutes physical mass. All physical action requires the assumption of some bond of union or organisation already established. The only analogy available for the interpretation of physical change is that drawn from the organisation of mental contents, especially in the form it assumes in social relations.

Lotze thus reaches—or at least suggests—a new point of view; that according to which the monads of which the world is made up are in their intrinsic nature psycho-social. On the basis of this view, to be described as a pan-psychic atomism, Lotze develops the psychological theories of his important work, *The Microcosm.*[2] It is evident that he reverses Herbart's essential procedure. Instead of finding in mechanical laws the ultimate ground of mental change, he makes the mental the ground of the physical.

Of his original psychological views, one of the most

[1] Lotze, *Metaphysik.* [2] *Der Mikrokosmus* (1856–1864).



RUDOLPH HERMANN LOTZE.

important is the theory of "local signs." According to this theory visual space, while native to the mind, is provoked by means of qualitatively different "signs" or marks attaching to or stimulated with the retinal elements which are locally distributed. The sensational equivalent of each such sign—whether considered as something intrinsic to vision or as a muscular factor—comes to be referred to its proper optical element. The retina, as thus plotted out in its entire area, becomes the organ of discrimination of external spatial position and arrangement. Similarly for tactile space perceived through the skin, where the local signs are circles of radiation. This theory led on to the "extensity" theory of James and Ward, according to which the local signs were themselves extensive, not merely intensive or qualitative, marks of visual (or other) sensation.

This important idea of signs was later on extended to time-perception, in the theory of "temporal signs"; which were qualitative marks attaching to the passing events in consciousness, whereby they were redistributed in time-order and arranged as before and after. As in the case of local signs, these qualitative marks were replaced by temporal. Each instant or "now," looked upon as a section of conscious content, was considered as having a certain temporal thickness or duration.

Lotze's judicious spiritualism sharpened the opposition between the mechanical interpretation of consciousness of Herbart and the functional, which was still to have its full development. Presentationism, the purely structural psychology of content, was opposed by apperceptionism in the functional form, which recognised a synthetic function or activity of mind.

Put on the defensive in the matter of determining the fundamental functions or faculties, Lotze accepted the consequences of his view. Herbart and Brentano had argued that if once we admit different faculties, there is no stopping anywhere; every distinguishable mode of mental process may be ascribed to a separate faculty: colour-perception and piano-playing no less than feeling and will. Lotze did not deny this, but claimed that certain generalisations were possible which permitted the valid demarcation of the great functions recognised in the Kantian threefold division. He was one of the few Germans who opposed the current untempered claims made on behalf of "unconscious" presentations, the existence of which he denied.

CHAPTER V.

Scientific Psychology in the Nineteenth Century. II. Special Lines of Work.

Physiological and Experimental Psychology.—The idea that lies at the basis of physiological psychology,[1] properly so called, is that of a regular and uniform connection between the internal functional conditions of the body, especially the brain, and states of consciousness. The method consists in observing or modifying the physiological, with a view to noting, altering, or producing mental conditions—sensational, emotional, active, etc. Lotze's book on *Medical Psychology* was a pioneer work in this direction, as we have already said. The method has been productive in researches on sensation, emotion, and movement; and also notably in the domain of medical diagnosis and surgical treatment. The theory of "localisation of brain functions" rests upon facts observed and experiments made in the pursuit of this method. The development of knowledge and of medicine in the

[1] On these topics the reader may consult the writer's more detailed but untechnical expositions to be found in the work *Fragments of Philosophy and Science*, Chaps. VI and VII. The last edition of Wundt's *Grundzüge der physiologischen Psychologie*, Titchener's *Experimental Psychology*, and Ladd and Woodworth's *Outlines of Physiological Psychology* (2nd ed. 1911), are to be recommended for further study. An admirable early English work, written from the medical point of view, is W. B. Carpenter's *Principles of Mental Physiology* (1876).

HERMANN LUDWIG F. VON HELMHOLTZ.

domain of "aphasia," since the discovery of the speech centre by Broca,[1] illustrates its enormous possibilities.

In the domain of sensation, the work of *Helmholtz*[2] on vision and hearing was epoch-making. It illustrates the extension of the method by means of external stimulation of the senses and experiments upon them, whereby "experimental psychology" came in to enlarge the scope of physiological psychology, understood in the narrower sense.

Researches in physiological psychology go back to the Arabian physicians, to Alhacen especially, and its body of results includes observations and discoveries made by many; but its establishment as a well-defined and well-controlled method of research is one of the notable achievements of the late nineteenth century.[3]

Experimental psychology, as distinguished from physiological, resorts to the external stimulation of the normal senses and to the direct experimental observation of the mind, the physiological conditions within the organisation remaining constant and normal.

In *psycho-physics,* the psycho-physical relation was experimentally investigated. It was founded by *G. T. Fechner* (1801–1887), who was led by his pan-psychic theory of the relation of mind and body to the attempt to discover the law of their mutual influence. The outcome of his experiments, in which he utilised results

[1] Called Broca's convolution; it is the third frontal gyre of the left hemisphere. See the article "Speech and its Defects," in the writer's *Dictionary of Philosophy and Psychology.*

[2] H. Helmholtz, *Die Lehre von den Tonempfindungen* (1863), and *Handbuch der physiologischen Optik* (1867).

[3] From the medical side, the works of Charlton Bastian, *The Brain as an Organ of Mind* (1880), and H. Maudsley, *Physiology* and *Pathology of Mind* (1862), have been very influential.

reached by the physiologist E. H. Weber, were stated in a quantitative formula known as "Fechner's psycho-physical law." The quantity or intensity of sensation varies with the quantity or intensity of the stimulation; but not in the same direct ratio. An increase in stimulation does not result in a proportionate increase in sensation; but in order that the latter may increase arithmetically, the former must increase geometrically. Put mathematically, this is equivalent to saying that the sensation increases as the logarithm of the stimulation.[1] This bears out the observation of daily life that two candles do not illuminate a page twice as much as one; that two violins, pitched in the same key, do not double the sound of one. It is a matter of ordinary observation that as the intensity of the excitation increases by well-marked variations, very slight changes are produced in the corresponding sensation.

Fechner's title to recognition as the founder of psycho-physics—as this special line of quantitative research has been designated—rests as much, however, upon his careful working out of the "psycho-physical measurement methods." These methods, which provided the code of experimental procedure upon which, with modifications, later investigation has proceeded, are expounded in the special works on psycho-physics.

The Weber-Fechner law, although found applicable

[1] The idea of a "sensational equivalent"—that there is a definite equivalence between mental manifestations and physical forces, the same as between the physical forces themselves"—is stated by Bain, "Correlation of Nervous and Mental Force," in Stewart's *Conservation of Energy*. Weber had already stated that in order to produce a noticeable increase in sensation, the stimulation must be increased by a constant proportion. Fechner (*Elemente der Psychophysik*, 1860) called his deduction the "law of quantity or intensity" (*Massgesetz*).

in a variety of cases, and employed with considerable licence of speculation in others—as in the theory of supply and demand in political economy—has not proved of great value. The interpretation of the psycho-physical formula is uncertain. On Fechner's view, the "inner" psycho-physical bond—that between the intrinsic brain process and the "soul"—was one of direct proportion or cause and effect. Others think that the facts of psychological relativity and physical inertia account for the apparent discrepancy between the stimulation, considered as cause, and the sensation, considered as effect. It does, however, go far to confirm the postulates upon which the experimental treatment of the mind proceeds: it proves that the mind-body connection is constant and uniform.

Mental Chronometry.[1]—Another relatively distinct line of experimental research is that which inquires into the time taken up by psycho-physical and mental processes.

Underlying mental chronometry is the idea that since brain processes and mental processes occur together, and brain processes take time, the time of the central occurrence as a whole may be separated off from that of the other parts of a reaction. The time of the entire reaction from sense to muscle—as when I press a key as soon as I see a light[2]—may be divided into three parts: that of the sensory transmission by the optic nerve, that of the central or brain process, and that

[1] The older term "psychometry" has been abandoned; it is badly applied in this case, and it has also been appropriated to certain occult uses.

[2] An experiment that reproduces the conditions of an astronomer's observation of a transit; this case, indeed, actually presented one of the early practical problems in reaction time work.

of the motor transmission to the muscles of the hand. Subtracting from the entire time that required for the first and third parts—quantities known through the researches of Helmholtz and others, on the velocity of the nervous impulse—or keeping them constant and negligible, the time taken up by the psycho-physical and mental processes may be reached by simple calculation.

A vast amount of detailed research has been carried out in refinements on this experiment. "Times" have been determined for perception, discrimination, memory, association, etc. Broadly considered, however, the results are disappointing. As is the case with psycho-physics, besides plotting in a curve and listing in figures, extending to several decimal points, the results already reached by rough daily observation, there has been little gain.

An important difference, however, has been established between "sensory" and "motor" times—cases in which the attention is fixed beforehand, respectively, in the direction of the stimulus or of the muscle used. The "motor" reaction is quicker. It has also been held that pronounced differences shown by individuals in their mental type, as being visual, auditory, muscular, etc., in their preferred mental imagery, show themselves in differences of reaction time.[1] Characteristic variations in reaction-time, occurring in abnormal cases and in nervous diseases, are useful adjuncts to diagnosis.

[1] This "type-theory" of differences in reaction time is presented and discussed in the writer's *Fragments in Philosophy and Science*, Chaps. XVI–XVIII—a citation made, however, for the further purpose of adding that the enthusiasm shown in the researches and discussions on this subject in that volume does not appear in the present text. In this dampening of ardour the writer by no means stands alone: cf. James, *Principles of Psychology*.

More important than these special researches in intensity and duration are the results obtained through experiments planned with reference to special problems. Here physiology and psychology go hand in hand. In the fields of sensation, memory, imaging, movement, emotion, attention, association, æsthetic judgment, thought, a mass of valuable facts and inferences have been accumulated: the variety and detail can only be understood by a reference to such handbooks as those of Helmholtz and Wundt already cited, and to the original papers in which the results are reported.[1]

Genetic Psychology.—With the coming of the evolution theory, especially in the form of the "natural selection" hypothesis of Darwin, considerations of origin, development, and growth came systematically into the natural sciences. Psychology in time felt the impulse; and gradually the genetic concept and method became current. The progress of Darwinism in the mental and moral sciences shows itself in certain of the departments of psychology in which specialisation has recently taken place: normal genetic psychology, child-psychology, animal or comparative psychology, 'race-psychology.

Jean Baptiste Lamarck (1774–1829), *Charles Robert Darwin* (1809–1882), and *Alfred Russel Wallace.*—Both Darwin and Wallace, the English co-discoverers of natural selection, the latter still living, were in spirit psychologists, so generously did their instinct for nature in all its aspects extend itself. Lamarck, their French predecessor, had recognised as one of the factors of

[1] Results in certain lines of recent investigation are reported and discussed in E. B. Titchener's books, *Feeling and Attention* and *The Experimental Psychology of the Thought Processes.*

evolution the "efforts," psychological in their character, made by animals in accommodating themselves to their environment. The effects of these efforts, no less than the direct effects of the environment itself upon the animal, were inherited and accumulated from generation to generation, according to the well-known "Lamarckian" theory. In this Lamarck showed that he breathed the atmosphere of the new voluntarism of Maine de Biran and Jouffroy, founded upon the sense of effort.

Charles Darwin recognised this principle of Lamarck, as well as the latter's view of inheritance. But Darwin showed the broadest interest in the facts of the mind itself;[1] and his theories and observations warrant our classing him among the naturalistic psychologists. The problems that exercised him were originally those of the animal kind—instinct, sexual preference, recognition markings, emotional expression, adaptation, etc.—all of which he discussed in the light of the theory of natural selection. But in his later work, *The Descent of Man,* he developed the full bearings of his views in their application to human faculty.

In it all we must recognise the founding of a new and thorough-going naturalistic psychology. The new and permanent element was the suggestion of a genetic morphology of the human faculties whose working out is one of the great tasks of the future. The mind in all its functions is a growth, its natural stages are those of the animal tree of life, its innate powers and *a priori* forms are inherited accretions which have been

[1] He observed the human baby ("Biographical Sketch of an Infant," in *Mind,* II. pp. 285 ff) and the garden plant with the same interest.

selected and accumulated from indeterminate variations. The formal or morphological factor in our equipment, no less than the content or filling given to it by experience, is the outcome of racial adaptation and selection in the physical and social conditions of man's pre-historical life.

In this we see a radical racial empiricism and naturalism, not only in point of view, but in the actual mechanism as disclosed in the principle of natural selection. Darwin not only proposed for the race what the associationists had suggested for the individual, the natural derivation of mental form; but his proposal took the problem of "matter and form" altogether out of the hands of the psychologist who treats of the individual, and made it again the genetic and historical problem that it had been to Aristotle and his Greek predecessors. The Kantian critique of experience asks: "How is the individual endowed to have the experience he has?" The Darwinian genetic naturalist asks: "What are the stages of racial history through which the individual has acquired his endowment?" It was the ring of mechanism and accidentalism in a theory founded upon "fortuitous variations" that made Darwin's views seem ultra-naturalistic in contrast with Lamarck's. But Darwin held also to the principle of the "inheritance of acquired characters" of Lamarck, although giving it a subordinate place.

Alfred Russel Wallace discarded, from the first, the Lamarckian view. In all his subsequent writings he has affirmed the sufficiency of natural selection. Like Darwin, he has an open mind for mental facts and sees their bearings on evolution.[1] He has made many

[1] Both Darwin and Wallace recognised the rôle played by consciousness in animal adaptations; such as the cunning employed

observations of psychological value—on imitation, courtship and mating habits, play, recognition of fellows, etc., among the animals. In one important respect, however, Wallace restricts the Darwinian principle outright. He holds that the rational and spiritual faculties of man could not have had a natural origin;[1] and in his further view he seems to go over to a form of spiritualism understood in the narrower sense of the reality and separateness of spirits, sometimes called "spiritism."

Herbert Spencer (1820–1903).—The psychologist's debt to Spencer has been grudgingly paid.[2] The reason

in flight, the taste and preference of the female, the warning given by colours and cries, the emotion shown in defence, the consciously social and gregarious actions; as well as imitation, rivalry, maternal and family affection, etc. In certain developments of Darwinian theory, consciousness plays an essential part; note the facts supporting the theory of mimicry, as reported in the writings of E. B. Poulton and others.

[1] A limitation of the same sort was set upon natural selection by the staunch Darwinian, Huxley, who held (Huxley, *Romanes Lecture, on Evolution and Ethics*) that the moral sense could not have been produced under conditions involving the "struggle for existence." A criticism of this view is to be found in the present writer's *Darwin and the Humanities*. See Wallace's *Darwinism*, for his strictly biological theories, and the *Studies, Scientific and Social*, for his more general views.

[2] H. Spencer, *Principles of Psychology* (1855). It is strange, but it is true, that many British writers find it impossible to do any sort of justice to Spencer. And yet where is there the British writer, save Darwin, whose name and theories are to be found in the whole world's literature of a half-dozen great subjects, since 1850, as Spencer's are? We hear it said that half the world now-a-days thinks in terms of Darwinism: but it is truer to say, "in terms of evolutionism"; for half of the half thinks its evolutionism in terms, not of Darwinism, but of Spencerism. Moreover, in the Latin countries and in the United States, it was the leaven of Spencer's evolutionism that first worked its way through the lump. Why not, then, recognise Spencer as what he was, one of the greatest intellectual influences of modern times, a glory to British thought? In psychology this is specially worth insisting upon,

is, perhaps, this, that with an unexampled programme for the science, and an equally unexampled wealth of plausible and research-exciting hypotheses, in this as in other sciences, Spencer combined a semi-deductive method, a speculative and ultra-logical manner, and a dry unattractive style.

Spencer applied consciously and directly the principles of psychological morphology, which were also implicit in Darwin. The native, *a priori,* forms of the mind are looked upon as solidified social experience—acquired, stiffened, transmitted by heredity. To the individual they are native; but by the race they have been acquired. Innate ideas are the petrified deposits of race experience. Here is a reconciliation in principle of the empiricist and the rationalist: the principle is that of racial experience; it is substituted for individual experience.

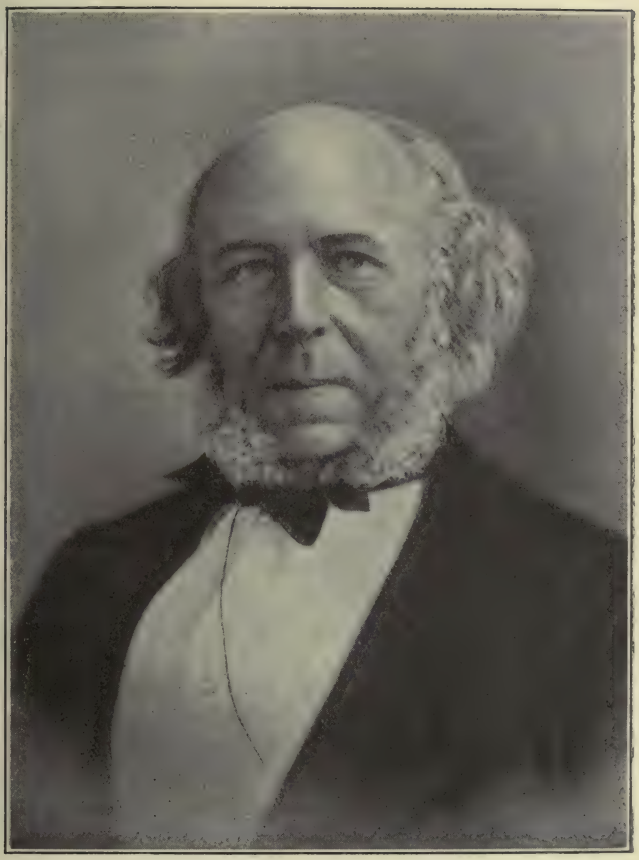
Spencer made Lamarckian inheritance an intrinsic link in the chain; but that is not necessary. Substitute for it the Darwinian conception of the continued selection of variations—especially as guided in its course by "coincident"[1] individual experience and social custom and habit—and the result remains the same.

To the psychologist, Spencer is an advance upon Darwin,[2] however, in that he discusses the alternatives

since Spencer came just at a time of surprising barrenness in this department in England.

[1] A term due to C. Lloyd Morgan, one of the discoverers of the supplement to Darwinism, known as "organic selection," indicated in the text between the dashes: Ll. Morgan, *Habit and Instinct* (1896), pp. 322 ff.; see also H. F. Osborn, *Science,* Oct. 15, 1897, and the present writer's *Development and Evolution,* Chaps. VIII ff, and *Darwin and the Humanities,* Chap. I.

[2] It is a question how far Spencer was influenced by Darwin. The dates of publication would indicate that Spencer's thought was, in the main, independent of Darwin's. Moreover, the



HERBERT SPENCER.

ad hoc, and brings out their bearings fully. The transfer of emphasis to racial experience introduced once for all the social way of looking at mental states. No doubt in this Spencer was influenced by Comte.[1]

The genetic point of view, thus placed on a racial basis, remained somewhat formal with Spencer; in this he is in contrast with the extreme concreteness and empiricism of Darwin. In interpreting the actual mental life, Spencer retained the purely structural and associationist point of view. He extended the structural and analytic conceptions—the theory of mental "elements"—to a general "composition theory of mind," replacing Condillac's individual human statue by a racial animal colossus, so to speak. Beginning with a primitive sensation or "feeling," accompanied by an elementary nervous process or "shock," a series of compositions takes place, resulting in more and more compound states. All concrete mental states are compounds resolvable by analysis. The first departure from simple feeling is a feeling of the relation of feelings; the presentative passes into the representative, the representative into the re-representative, etc. Thus the process goes on.

The additional principle invoked is that of association. Here again Spencer simply transfers the recognised pattern of individual psychology to the larger canvas of race history. Association is the cement of the mind; it binds the elements into wholes, and makes of the compositions permanent complexes and com-

theory of natural selection, to which Darwin's *Origin of Species* was devoted, would hardly have appealed at once to one imbued, as Spencer was, with Lamarckism. This is confirmed, too, by Spencer's subsequent attitude toward natural selection.

[1] Spencer (*Principles of Sociology*) attempted to work out a system of sociology in the spirit of Comte's suggestion.

pounds. In thus rendering the mechanics of ideas in terms of association, Spencer remained true to the British tradition.

Spencer differed from the structural psychologist of to-day principally in being more thoroughgoing: he needed only one primitive element, they require generally two or three. With them he, too, used the analysis of chemical and biological synthesis to replace the looser union suggested by the laws of mechanics. But in this there is no real gain. In what we may call "the H_2O theory"—the chemical analogy—there is no recognition of a functional reaction of consciousness or of the self upon the mental content; no real progression or genesis is reached in the growing complexity of the compounds produced. The mental process, like its mechanical and chemical analogues, might as well move backwards. The modern choice of phrasing—"so much intellection, so much conation, and so much affection"—does not help the case. In their criticisms, the functional psychologists have shown the inadequacy of association, working on "elements," to accomplish mental synthesis. It is a poor sort of cement. Even those who eulogise it are prone to smuggle in, after the example of Hume, some disguised functional principle like habit.[1]

[1] In its result the composition theory and structural views in general, which seek to decompose mental states into elements lead to an analysis based upon the simpler conditions found in other sciences. In Spencer, this procedure was a habit of mind. Through his influence, mechanical analogies plagued biology, and biological analogies plagued sociology. It results everywhere in the "illusion of simplicity." The very flower and fruit of synthesis are lost in the counting of the *disjecta membra* of "elements." . . . Certain of Spencer's more special theories are noticed in the sections on Comparative and Affective Psychology just below.

It should be noted, however, that Spencer, a confessed Positivist, essentially revised the programme of Comte in respect to psychology. The independence and scientific integrity of psychology are recognised. The science is freed from the leading-strings of biology on the one hand, and from its service to sociology on the other; and stands in its true place between the sciences of life and those of society. This step the later history has fully justified; for psychology has since made more real and noteworthy scientific progress than sociology.

Animal and Comparative Psychology.[1]—It was natural to suppose that under the inspiration of the theory of evolution, various lines of observation would take on new interest; that the leading afforded by genuinely organising genetic principles, like those of Lamarck and Darwin, would result in directed scientific effort. This has been the case in animal psychology. The study of animals passed first from the "anecdotal stage" to that of close observation, that is, from mere story to "natural history"; it then passed from observation to actual experiment.

The literature of the observation of animal habits and characters is rich and varied. The great naturalists, Buffon, Darwin, Wallace, lead off, following the lead of Aristotle. The works of Brehm, Romanes, Fabre, Hudson,[2] are among the best on the general habits of animals, considered from the psychological

[1] In this and the following sections dealing with special topics, it will be impossible to cite authorities in detail; apart from earlier writers, only works which give summaries will be cited, to guide the reader's further study.

[2] Brehm, *Das Tierleben*; Romanes, *Mental Evolution in Animals*; Hudson, *The Naturalist in La Plata.*

side; those of Espinas, Groos, Lloyd Morgan,[1] on special functions, interpreted by theories of psychological and social value. The new experimental method, pursued especially in the United States, raises the problems of comparative psychology, understood in the broadest sense. It attempts to apply actual experimentation to animals, from the lowest to the highest organisms—from the micro-organism to the monkey. Its results are, of course, of enhanced interest when the comparative point of view is extended from the animals to man.[2]

Leaving to the text-books the recital of the details of methods and results, we may point out the progress made toward the solution of certain of the older and more important problems.

Instinct.—The problem of instinct gave to the new genetic theories a bone to exercise their teeth upon. Instinct had been looked upon as conclusive evidence of the "special creation," each after its own kind, of the different species of animals; the instincts are common to species, and diverse from one species to another. Further, instinct was taken to prove "design" in nature. Nowhere else were devices to be found so cunning in their construction, and so apt for their

[1] Espinas, *Les Sociétés animales* (1877); Groos, *Die Spiele der Tiere* (1896); Ll. Morgan, *Animal Intelligence* and *Habit and Instinct* (1896).

[2] The need of objectivity and control has led to the emphasis of behaviour as such, and the "science of animal behaviour" tends to replace "animal psychology." Such a science would be in principle natural history over again—made experimental—much as Aristotle conceived it. If such a method is to yield psychological results, it must be made a means, a method of securing data for a true comparative psychology. For example, the object of experiments on the colour vision of animals is sensation, not behaviour.

purpose, as those brought into play by the animal instincts.

With the rise of the Lamarckian view of evolution the first "natural" and genetic account of instinct came forward.[1] It was held that with the passing down of acquired habits from generation to generation, these became fixed in the nervous structure; that is, they became instinctive. The bird builds its nest as it does because its ancestors learned consciously how to do so in the first instance. This function, acquired by experience, has been inherited and improved upon by countless generations, and has thus become native or innate. Finally, it has become a purely nervous function, requiring no antecedent experience on the part of the individual bird.

In this way all sorts of ancestral experiences were made available to later generations by the simple bridge of heredity, thrown across the chasm between parent and child. Reflex acts, the adaptations due to the "efforts" pointed out by Lamarck, the actual accommodations acquired by the intelligence and preserved by the experience of the forbears—all these are preserved in solid nervous connections, in the organisms of the individuals of the species. In this way, the individuals are endowed with instincts.

This is the psychological or Lamarckian account of instinct, called by Spencer, to whom its fullest statement is due, the "lapsed intelligence" theory. The instincts seem so intelligent because they once *were* intelligent; they were acquired by the aid of intelligence. It is only their nervous apparatus that has

[1] For a brief account of earlier observations on instinct see Miall, *History of Biology* (in this series), pp. 69 ff.

been conserved in the form of instinct; the intelligence, at first required, has lapsed, disappeared.

To this, the strict Darwinian theory, based on natural selection and denying the inheritance of acquired functions, opposes the theory of accumulated "variations." It is evident that if Lamarckian inheritance be disproved, or if it even remain unproved, the lapsed intelligence theory collapses completely. Apart from all questions of plausibility, this has been the result: recent biologists have almost unanimously discarded the inheritance of acquired actions, or so curtailed its scope that it is highly unsafe to give it any important place. Accordingly, except for vitalistic theories, such as that recently formulated by Bergson [1]—theories supposing in some form an intrinsic internal directive force in the life-process, by which functions are determined wholly or largely in independence of the action of the environment—the Darwinian theory is the only resource.

Recent advances due to fuller observation and experiment make an essentially Darwinian view less difficult to accept. The principle of social heredity or tradition, recently formulated,[2] rests upon observations which show the union of inherited and social activities in many functions formerly considered purely instinctive. By imitative or other processes of learning, the young of the various kinds acquire what has become a "social

[1] H. Bergson, *Évolution créatrice* (1907); Bergson holds that instinct is a sort of direct or "sympathetic" knowledge on the part of the animal, being in contrast with the "logical" form of knowledge seen in the intelligence.

[2] Spoken of again below in the section on Social Psychology; its recognition in animal activities was made by Wallace (*Darwinism*), Ll. Morgan (*Habit and Instinct*), and Weismann (*Studies in Heredity*).

tradition" in the species, thus supplementing the rudiments which are inborn. In many of the cries of animals, their special activities of feeding, play, nesting, etc., an inherited but incomplete impulse or tendency is perfected and made effective by acquired tradition, which is handed down from generation to generation, not as a physical but as a social heritage.

It results from this—and it is confirmed by independent observations—that animal instincts are in many instances not perfect and invariable functions, as the older observers supposed. There are many partial instincts—functions partially inborn—which owe their effective exercise to the supplementing and perfecting due to teaching, exercise, and experience. The influence of the presence of parents, family, and companions on the growing young of animals extends to some of the most vital functions of their life; and few instincts are entirely free from it.

These considerations relieve considerably the strain put upon natural selection in the Darwinian theory of instinct; since it is no longer called upon in such instances to account for the perfect, invariable, and precisely adapted instincts described by the older naturalists. Instead, its operation need extend only to that factor or part of the instinct which is actually inherited. Tradition, the social factor, does the rest.[1]

A further selectionist theory of instinct is made

[1] This is made the more evident, if it be true, as the theory of "organic selection" mentioned above maintains, that the accommodations resulting from learning, exercise, tradition, etc., screen and keep alive variations coincident in direction with themselves. In this case, the course of natural selection would be directly in the lines first marked out by intelligent, social, and other adaptations; and any stage of development of the innate factor would be effective if supplemented by acquired modifications, as the circumstances of the case might require.

possible—though it has not yet to my knowledge been suggested—by the new view of the nature and rôle of variations due to de Vries.[1] Instead of the minute variations supposed by Darwin, "fluctuating" in every direction, upon which natural selection was held to act, de Vries discovers in plants occasional marked variations or "mutations," which breed true, and seem to establish stable departures from type analogous to new varieties. If this should prove to be true in the animal world generally, it would be possible to suppose that instincts, or some of them, arose as mutations or wide variations—adaptive in character, and permanent in inheritance—kept alive by selection.

The late definitions of instinct hold to its distinguishing character as being an actual performance or act, not a mere innate impulse or disposition.[2] Impulses or dispositions may be "instinctive," in the broad sense of inborn; but an instinct, properly speaking, is an action, partly at least inherited, relatively complex, adaptive in character, and common to the members of a species. Or, defined negatively, it is a function which is not entirely learned from experience, not a simple reflex, not accidental or inadaptive, and not an individual performance.

Special Functions: Imitation.—Among the functions closely investigated of late is that of imitation. The older and vague view was that certain animals, such as the monkey and the mocking-bird, were given to capricious imitation; and that the child was notoriously imitative. Recent investigations have treated the func-

[1] M. de Vries, *Die Mutationslehre* (1901–1903).

[2] W. James uses the term instinct, however, somewhat loosely for all inherited impulses or propensities.

tion by observation, as it appears in the social life, and by experiment, as it is found in animals and children. In the result, the range of imitative activities has been both extended and restricted, as a clearer definition of the function itself has emerged.

If imitation be defined from the point of view of the mechanism of the imitative reaction, it takes on a very wide range. It may then be considered as a "circular" or self-repeating function; as when the young child repeats endlessly the "Ma-ma" sound that he hears himself make. This conception of imitation has an important place in pathology under the heading of "mimetism"; it appears in many pathological conditions, such as "echolalia," or mimetism of speech. The distinguishing point in this definition is that the stimulation which the act of imitation reproduces need not come from another individual. So far as the act is concerned, the result is the same if the stimulus is due to the action, or arises in the imagination, of the imitator himself. This opens the way for the inclusion of all sorts of auto-mimetic or self-imitative functions. Thus the notion of imitation is broadened. It extends to actions in low organisms which are circular or self-repeating, and also to conscious volitions, in which the imitation is directed toward an end set up in one's own mind. It thus becomes a unifying genetic principle of importance.[1]

The other extreme definition of imitation makes it essentially social, a "copying" of one individual by another. In this form, the function is emphasised in theories of social organisation and inter-psychology.[2]

[1] Cf. the writer's *Mental Development in the Child and the Race* (1895), Chap. IX ff.

[2] A term used by Tarde, *Les Lois de l'imitation* and *Les*

But this cannot be called either a psychological or a biological conception; since neither the point of view of consciousness nor that of organic behaviour discriminates the character of the source whence a stimulation proceeds. It is rather a sociological conception, and a concession to the popular idea of imitation as an act of personal copying.

The two conceptions may, of course, be held together, one marking a special case under the other. It is necessary, however, to indicate clearly the usage one adopts. In experiments on animals the second or sociological conception is usually adopted, such experiments turning upon the behaviour of one animal in the presence of another. Many experiments have been made on animal imitation as thus defined. The result has been to establish the fact that imitation varies remarkably with the species; also that whether it enters essentially into the animal's learning process—one animal profiting by what he sees or hears another do—varies with the grade of the animal's intelligence and with the complexity of the act. In many cases it is so obscured by gregarious habits and social instincts that its signs are very ambiguous. In the higher forms it is especially marked in functions peculiar to the species, in which a rudiment of native impulse in the direction of the function in question may well be supposed. An animal imitates another of his own species, where he would not imitate one of a different kind.[1]

Lois sociales (1898), both translated into English, for a restricted social psychology. Tarde upholds an extreme imitation theory of social organisation : see below, section on Social Psychology in Chapter VI.

[1] The literature of imitation gives many distinctions, such as "conscious," "unconscious," "subconscious," "plastic," "per-

As to its origin, the "instinct" theory of imitation accounts for it, as the instincts generally are accounted for, Lamarck-wise or Darwin-wise. It is opposed by those, among them Bain,[1] who consider the function acquired. The social or copying mode of imitation is considered by Wundt and others as a case of kinæsthesis—the prompting of a movement by the idea of that movement—since the copy may be looked upon as an idea which stirs up a kinæsthetic equivalent of the actual movement. The imitative type of reaction, however, psychologically and biologically considered as one that repeats itself through the reproduction of its own stimulation, is rooted more profoundly in organic conditions. It is seen in organic reaction to pleasurable and painful stimulation; the former being self-repeating, and the latter self-suppressing. On this view, as developed in the "circular reaction" theory, imitation has arisen from pleasure-pain or hedonic reactions which are fundamental to life.

Play.—Another function, common to animals and man, which has been taken out of the category of mere incidental action and shown to be a function of great utility, is that of play. Principally through the

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sistent" imitation, etc. A curious phenomenon is that of "deferred" imitation, an example of which I may note here from a body of unpublished observations on West African gray parrots. The parrot seems to make no response whatever to a word repeated in his hearing, for his learning, for days or weeks; when suddenly he is heard uttering the word aloud, or mumbling it over to himself, when there is no copy given him. The stimulus, repeated so often, has a sort of cumulative effect, and after a period of incubation, so to speak, the imitation appears. This may well be called "deferred imitation." A peculiarity of it is that the fairly successful imitation is not preceded by grossly bungling attempts, although there may be a sort of internal practice before the articulate sound is made.

[1] Alexander Bain, *Senses and Intellect*, 3rd ed., pp. 413 ff.

important work of Groos,[1] the topic has become one of interest both to biology and to psychology.

Earlier theories regarded play as a sort of luxury of life, a bit of by-play. The theory of "recreation" gave play a certain utility, that of providing recuperation to exhausted faculties during the game; and the "surplus energy" theory worked out by Spencer, which made play a sort of "escape" or vent for stored-up animal energies, also gave it a certain value. But no theory till that of Groos assigned to it a really important genetic rôle in the economy of animal growth.

The "practice" theory of Groos considers play a mode of preliminary exercise of the powers of mind and body, which gives them essential practice under conditions free from the storm and stress of their serious exercise. The kitten teasing the ball of yarn is preparing itself to be the cat teasing the mouse. The dog playing at fighting and biting is exercising himself to be the victor in encounters in which dogs really fight and bite. This extends throughout all the playful activities of an animal species; curiously,[2] but on this theory reasonably, they show bungling and tentative imitations of the adult habits of the species. When all reserve as to details and minor qualifications are made, this theory seems likely to remain a permanent contribution to the list of real explanations.

Thus considered, play is a function of high utility. It may have—and probably does have, as other writers have shown—other utilities. It is socialising, it is purging of the energies, it is run through with dramatic

[1] K. Groos, *Die Spiele der Tiere* (1896), and *Die Spiele der Menschen* (1899), both translated into English.

[2] Sometimes a ludicrous exhibition, as the hopping and *kicking forward* of young kangaroos.

and æsthetic meaning. Moreover, it serves the purpose of the exhibition and testing of the powers and character of the individual person or self, in a remarkable way. It gives scope to the imagination, allows the free play of fancy. All these psychological utilities go with the biological, as described in the practice theory, and in no way contradict it.

The theory of play which thus describes its rôle and utility makes of it, along with imitation, a native impulse. The theories of its origin are those of imitation over again; and play and imitation are found together. Most plays are imitative, many consciously so. The connection would seem to have its own utility also; for if play is to have its rôle in practising adult activities, it must be directed in the line of those activities. This could be done only by the production of an instinct to play each function before using it seriously, or by a more general method of bringing the immature functions, all alike, under the dominion of the play impulse. The latter is nature's method, and imitation seems to be the means adopted. By imitating their adults, their own activities are practised by the young; and by playing naturally as their powers develop, they imitate the strenuous life. Gross sums the matter up in these words: "Instead of saying, the animals play because they are young, we must say, the animals have a youth in order that they may play." [1]

Play has also become the starting-point for new observations and theories in the psychology of æsthetic appreciation and art production. In play the rudiments

[1] It is on such correlations as this, and the truths they are based upon, that a new and "natural" pedagogy must be based. Educational theory and practice are already profiting by the recent advances in genetic psychology.

of self-exhibition, decoration, make-believe or semblance, and imaginative dramatisation appear, which grow up and flower in the æsthetic consciousness. Of this a further word below.[1]

Accommodation and Learning.—The process by which a new act is learned, a new accommodation effected, has been under very diligent investigation. The older theories were, here as elsewhere, lacking in experimental control; but they hit upon the theoretical alternatives which the newer work is placing in the light.

Apart from the purely "causal" theory—according to which the mind simply causes the movement of the body as it wishes, without having to learn how to do so—the "reflex" theory seemed the natural resort: the movement is always a reflex, or a compound of reflexes, brought out by the stimulus. Both in its amount and in its direction and character, the movement is the effect of a definite cause. This is the Cartesian "automaton" theory reinstated in physiological terms.

Opposed to this mechanical view various vitalistic solutions have been proposed. They all assume something in the life processes added to the mechanical response to the environment: certain internal processes which initiate, regulate, or, at the very least, complicate and delay, the responses made by the organism to stimulation.[2]

These three words—initiate, regulate, and complicate

[1] In the section on "Æsthetic Psychology," in Chapter VI.

[2] An elaborate defence of vitalism, based on general biological considerations, is to be found in H. Driesch, *Science and Philosophy of the Organism* (1907–1908).

—are used in this order with the intent to bring out the stages of gradual retreat of vitalistic conceptions, in view of the results of experimental research. Few hold to-day that the will or the soul can initiate a movement of the muscles in an absolute sense. No movement can be made outright, without learning and practice; to be made, it *must have been made.*[1] Accordingly it is held that a directive control over the energies released by the stimulus is exercised by the mind in its psycho-physical function; voluntary and even semi-automatic[2] movements have a degree of variability and uncertainty[3] that differentiates them, and removes them from the category of direct effects of given mechanical causes.

Not stopping to rehearse again the controversy on the mind-body relation, we may state the results of recent work. Experiments on low organisms have done little more than sharpen the issue and give it a new terminology, in spite of the evident extension of the scope of the mechanical point of view and the accumulation of many facts. The theory of tropisms[4] reduces the higher responses to complications of simple

[1] According to the principle of "kinæsthetic equivalents" established in brain-physiology and pathology, no movement can be made unless and until there is in the mind a memory, image, thought or other symbol equivalent to the movement, due to earlier experience of making it. Cf. the writer's *Dictionary of Philosophy and Psychology*, sub verbo. The term "kinæsthesis" ("feeling of movement") was first used by C. Bastian, *Brain as an Organ of Mind* (1880).

[2] A term due to Priestley, who used it to designate acts at first voluntary which have become habitual.

[3] The early distinction made by Avicenna between definite invariable and uncertain variable movements will be recalled. The latter were ascribed to the rational soul.

[4] A term suggested by J. Loeb to indicate a direct "turning" response of an organism or cell in response to external stimulation.

ones, mechanical in character. Except for new evidence, it amounts to a re-statement of the reflex theory, and the utility of the new word is not entirely evident.[1]

The opposition to this theory, made articulate in the work of Jennings,[2] points to the complicated internal processes, chemical and vital, which lie between the stimulus and the response, even in the simplest organisms; and holds that this central network of processes is the seat of the directive and complicating factor, whatever it may be. It is also the seat of consciousness, which seems to vary in degree and positive function with the apparent indeterminism of movement. The natural inference is that, whatever its final meaning may turn out to be, the presence of consciousness makes this link in the chain "psycho-physical," rather than purely "physical"; and this makes a difference. What difference?—just the difference we see between voluntary and reflex movements, between movements intended and directed as well as caused, and movements merely caused.

While, therefore, a remarkable showing of positive results has been made by experimental research on organisms high and low,[3] the outcome for general theory is so far a re-statement of the old theoretical alternatives. With this difference, however: it grows more and more difficult to hold to either alternative, mechanical or vitalistic, as being final. Hence it is

[1] Certain authors have rejected the term "tropism" on account of variation and ambiguity in its meaning.

[2] Jennings, *The Behaviour of Lower Organisms* (1906).

[3] Summaries of researches are to be found in Washburn's *The Animal Mind*, and Bohn's *La Naissance de l'Intelligence*. See also the reviews given annually in the "Comparative Psychology" issue of the *Psychological Bulletin*.

held by the advocates of a radical genetic point of view that the solution lies in the recognition of "genetic modes" or stages in the process of nature, which are *sui generis,* and each of which is a real advance, to be understood only in terms of its own characters or processes, not in terms of a simpler mode or by means of the scientific abstractions made to fit the simpler. The mechanical reading proceeds by the use of physical analogies; the vitalistic, by those drawn from consciousness and volition. Nature, however, achieves a union of the two which is psycho-physical; and our daily observation teaches us that neither the one analogy nor the other is adequate to symbolise it.

In the investigations, however, made on accommodation and learning, in the province of movement, a noteworthy advance has been made. It has been shown that the actual new adjustments which constitute the learning of a movement are, certainly in many cases, subject to the law of "trial and error" or "selection from over-produced movements." The animal tries with more or less success—actually less and then more —until he learns. The history of this principle, now probably safely proved, may be briefly indicated.[1]

In principle, as its early proposers recognised, it is an application of Darwin's law of selection. The movements of trial or "try-try again," varying in force and direction, are "cases"; and with the multiplication of cases, the chance of "happy hits"—a phrase used by Bain in discussing this topic—is increased. So looked upon, the problem was ably but somewhat abstractly discussed by Spencer, who postulated diffused discharges from the nervous centres, giving an over-

[1] Its antecedents are overlooked, as is often the case in the first flush of experimental success.

production of "random" movements in great variety —"fortuitous," in the Darwinian phrasing—of which certain are adaptive. These are subsequently carried out by a wave of "heightened nervous energy," which fixes a path of least resistance in the organism. In order to this, another important factor is necessary, and Spencer recognised it: a feeling of pleasure is connected with such successful and adaptive movements, which, by association with the pleasure, are repeated and made permanent.

Bain brought to the problem the idea of "native spontaneity," a primitive tendency to movement with which, on his view, all life is endowed. Movement precedes sensation. It is from this store of original, restless, overflowing activities that adaptive movements are selected. He adopted the idea that pleasure and pain regulated the selection. In his phrase, pleasure "clinches" the adaptive action and by association makes it permanent through repetition. The order of the factors, in the view of Bain, is as follows: "random movement, pleasure, memory of pleasure with memory of movement, adapted movement." [1] Bain recognised [2] that all the essential factors of his theory had been named by Spencer; but Bain's treatment is more concrete and convincing.

It is upon this background of theory that the law of "trial and error" emerges from experimental research.

[1] Quoted from the writer's summing up of a more detailed exposition in another place (*Mental Development in the Child and the Race*), Chap. VII, 3rd ed., p. 173, where it is pointed out that it is the pleasure that is the original term—if not the first in time —since it is not a repetition of the movement as such, but of the pleasure and its conditions, that gives utility to the reaction and furnishes evidence of the adaptation.

[2] Bain, *Emotions and Will*, 3rd ed. (1888), pp. 318 f.

It re-states, so far as the method of performing and singling out the successful movement is concerned, the law of "functional or excess selection from over-produced movements." It brings the learning process into line with other cases of the production of apparently directed results selected from ill-assorted data. "Trial and error" is a phrase used in the mathematical treatment of chances. Experimental research, however, has not yet answered the other questions involved: what is it that constitutes the act an adaptation?—and what clinches or preserves such movements rather than those which are suppressed? To these questions, the Spencer-Bain theory in some form still supplies the only answer—pleasure and pain.

The proof of this law through experiment, however, carries the application of Darwinian selection into a new and unexpected field. Its application is possible and has been made to voluntary no less than to merely responsive movements.[1]

Experiments have been made upon various aspects of learning, understood in the larger pedagogical sense. They extend from the conditions of memorising to those of conscious relating and apperceiving. A much disputed question is as to whether the discipline of one faculty improves others—the old question of "formal training"—and more generally as to what are the laws ruling the correlation of the faculties.[2]

Experiments on children have come to supplement observation, in the pursuit of Child Study, another line

[1] "The Origin of Volition in Childhood," *Proc. Inter. Cong. of Psychol.*, London, 1902, reproduced in the author's *Fragments in Philosophy and Science*, Chap. VIII.

[2] See P. Barth, *Die Elemente der Erziehungs- und Unterrichtslehre* (1906).

of genetic work. Biographies, diaries, "questionnaires," experimental studies, theoretical interpretations, have all taken on a more serious and scientific look since the day of the publication of Darwin's and Preyer's careful observations.[1] While not of startling theoretical importance, the results have justified the genetic method and reinforced its data.[2] Serious treatment of certain of the larger questions involved in the psychology and biology of the growing individual are to be found in such works as that of Hall on adolescence.[3]

[1] Ch. Darwin, "Biographical Sketch of an Infant," *Mind*, O.S., II, pp. 285 ff.; W. Preyer, *Die Seele des Kindes* (4th ed., 1895).

[2] For a recent setting together of results see the work of Claparède, *La Psychologie de l'enfant et la Pédagogie expérimentale* (1908).

[3] G. S. Hall, *Adolescence* (1905).

Chapter VI.

Scientific Psychology in the Nineteenth Century and Beyond. III. Special Lines of Work (concluded).

I. *Social Psychology.*—Psychology has reflected the collectivistic tendency generally noticeable in late nineteenth-century thought. This tendency showed itself in certain well-marked movements. It appeared in evolution theory—as Darwinism worked its way beyond the biological sciences as such—in the substitution of the group for the individual, in cases of selection in which the utility subserved was collective. It was seen that social utility may replace individual advantage; that group competition may succeed to personal rivalry; that the "good of the whole" may be better than the "good of all." It appeared further in political theory in Hegel's view of the State,[1] in the stirring of the ferment of Rousseau's doctrines, and in the beginnings of Socialism.[2] In the matter of scientific method, Comte's Positivism was its vehicle; and the science of sociology, as projected by Comte, was to explain the theory, as well as apply the method, in the domains represented by social science and psychology.

In psychology, it became potent in consequence of the criticism of theories based on the concept of an isolated individual. The English "moral philosophy" had pointed out the power of sympathy and altruism,

[1] Hegel, *Die Philosophie des Rechts* (1833).

[2] The first edition of Vol. I of Marx's *Das Kapital* appeared in 1867.

as against self-love, and the inherent strength of the collective instincts and springs of action. The affective motives were shown to run athwart the intellectual, as represented by the law of association of ideas, which had been formulated as a principle working within the individual mind. Meanwhile the sociologists were meeting with downright failure and suffering discredit, in their attempts to found a social science upon an un-social psychology. The "sociology" of the biological analogy, that of the struggle for existence, that of imitation, opposition, and repetition, that of the compounding of sensations, desires, and beliefs,[1] that of the association of ideas used to explain the association of human beings —all these more or less futile sociologies put in evidence the need of a psychological theory of the social individual. The motives of collectivism clearly expressed in Darwin's theories of instinct, emotion, and morals were held in check by Spencer's ambitious pre-emption of the field of social science with a construction motived by individualism and founded on association. Moreover, the disciples of Comte, in England at least, spent their energies on practical questions and measures and on the negative criticism of metaphysics.

In England, too, the hindering influence of the theory of association was seen at work in the Oxford school of anthropologists. In Tylor[2] and Max Müller alike, dissimilar as they are, the psychology of primitive man is read in terms of that of the civilised; and this largely by means of the common and universal operation of association.

[1] The search for the "elementary social fact" has been analogous in sociology to that for the original "element" in psychology.

[2] E. B. Tylor, *Primitive Culture* (1871); M. Müller, *Science of Religion* (1870).

The need became apparent for a genetic and social psychology, which would reveal the state of the individual mind in given social conditions; the relation, that is, between individual and collective "representation," to extend somewhat the phraseology of the French writers referred to in the discussion of primitive thought.[1]

Put in Kantian form, the question of social psychology is this: How is a social subject or self possible? Is he a socialised individual self, or is he an individualised social self? The outcome of social psychology until now points plainly to a negative answer to the first, and a positive answer to the second, of these questions. It thus reverses the point of view of historical individualism, and gives collectivism its *point d'appui* in the processes of mental development itself.

The larger results upon which this verdict is based may be stated in order; in this way the present status and programme of social psychology will be brought out.

(1) The matter of "tradition" has been cleared up. It has already been pointed out that a true social heredity is to be recognised among animals, running parallel to physical heredity and supplementing it. In human groups this is enormously developed in what we call "culture," a body of beliefs, usages, and sanctions transmitted entirely by social means, and administered to growing individuals by example, precept, and discipline.[2] This constitutes the social store, the collective

[1] Chapter II. of Vol. I.

[2] In certain extreme statements of this view, society is made an organ of constraint, a sort of new Leviathan, by which individuality as such is crushed out. See Durkheim, *Le Suicide*, and cf. Maudsley, *Physiology* and *Pathology of Mind*.

wealth of the group, its moral heritage. It constitutes the *milieu,* a body of influences which are necessary to the development of the individual mind. Such functions as language, spoken and written, play and art; such inventions as fire, building, and weaving, are not only conveniences of life; they are necessary means of growth. What sort of a being would develop without them? Just the primitive truncated being we actually find in the rudest men, only worse. The analogy of the immature child, born physically before its period, is more than a figure.

The society into which the child is born is, therefore, not to be conceived merely as a loose aggregate, made up of a number of biological individuals. It is rather a body of mental products, an established network of psychical relationships. By this the new person is moulded and shaped to his maturity. He enters into this network as a new cell in the social tissue,[1] joining in its movement, revealing its nature, and contributing to its growth.[2] It is literally a tissue, psychological

[1] A phrase used by L. Stephen in *Science of Ethics.*

[2] Certain of the books in which this and the following points are discussed from different points of view are Bosanquet, *Philosophical Theory of the State* (2nd ed.); G. Simmel, *Soziologie* (1908); P. Barth, *Die Philosophie der Geschichte als Soziologie* (1906); Lacombe, *De l'Histoire considérée comme science* (1894); Tarde, *La Logique sociale* (1893), and *Études de psychologie sociale* (1898); Ribot, *La Logique des Sentiments;* Guyau, *Éducation et Hérédité* and *Esquisse d'une Morale.* The point of view of collective psychology was carried into ethical discussion in England by S. Alexander, *Moral Order and Progress* (1889), and L. Stephen, *The Science of Ethics* (1882); see also Ormond, *The Foundations of Knowledge* (1900), and Dewey and Tufts, *Ethics* (1908). The terminology in this field is not well developed. I follow that employed in my work *Social and Ethical Interpretations* (1897); certain of the terms—such as "socius," "social heredity," "social situation," "social dialectic," etc., have now been widely adopted. There are no general summaries of

in character, in the development of which the new individual is differentiated. He does not *enter into it* as an individual; on the contrary, he is only an individual when he *comes out of it*—by a process of "budding" or "cell-division," to pursue the physiological analogy. Society is a mass of mental and moral states and values, which perpetuates itself in individual persons. In the personal self, the social is individualised.

(2) The more specific task of social psychology then appears. It is that of tracing out the internal development of the individual mind, its progressive endowment with individuality, under the constant stimulation of its *entourage*, and with nourishment drawn from it. A constant give-and-take process—a "social dialectic"—is found between the individual and his social fellows. By this process the materials of self-hood are absorbed and assimilated. The "self" is a gradually forming nucleus within the mind; a mass of feeling, effort, and knowledge. It grows in feeling by contagion, in knowledge by imitation, in will by opposition and obedience. The outline of the individual gradually appears, and at every stage it shows the pattern of the social situation in which it becomes constantly a more and more adequate and competent unit. This process the social psychologist has patiently traced out; and apart from details, on which opinions differ, it constitutes a positive gain to our knowledge.

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results; the *Introduction to Social Psychology* by McDougall (1908) comes perhaps nearest to it, though it is also a first-hand study of the problems. See also Ellwood, *Sociology in its Psychological Aspects* (1912). The annual "Social Psychology" issues of the *Psycholog. Bulletin* may be consulted; and the select lists of titles given in the *Dict. of Philos. and Psych., sub verbis.*

The consciousness of the self, thus developed, carries with it that of the "alter"-selves, the other "socii," who are also determinations of the same social matter. The bond, therefore, that binds the members of the group together is reflected in the self-consciousness of each member. The external social organisation in which each has a certain *status* is reinstated in the thought of the individual. It becomes for each a psychological situation constituted by selves or agents, in which each shares the duties and rights common to the group. Upon the background of commonness of nature and community of interests the specific motives of reflective individuality—self-assertion, rivalry, altruism —are projected; but they are fruits of self-consciousness, they are not the motives that exclusively determine its form.[1] All through its history, individualism is tempered by the collective conditions of its origin.

When the self has become a conscious and active person, we may say that the mental individual as such is born. But the individual remains part of the whole out of which he has arisen, a whole that is collective in character and of which he is a specification. He lives and moves and has his being still in a system of collective facts and values. He is a "socius," an element in a social network or situation; only by this can his individuality and independence become possible or have any meaning. In this new sense is the Aristotelian dictum confirmed—"man is a social animal." But we may express the whole truth more adequately by saying that man is *a society individualised;* for in the new

[1] Of course, the instinctive self-seeking and egoistic motives are present along with the social from the start.

individual society comes always to a new expression of itself.[1]

(3) Once introduced, the inch develops into the ell. The social strain in the normal working of most of the mental functions has been made out. Biological intimations of social conditions have been pointed out in bashfulness, organic sympathy, gregarious impulses, etc. Apart from the specific means by which the processes of socialising and training go on—contagion, imitation,[2] play, sympathy, obedience, language, moral sense, etc.—the element of "community" has been found to extend to the operations considered by earlier thinkers the most individualistic. Self-love is never free from a colouring of sympathy, invention rests upon imitation, rebellion involves the recognition of the rights of others, rivalry is a form of co-operation. Thought no less than life is shot through with the motive of collectivism. Opinion is formed on social models, social authority precedes logical validity, private judgment is never really private. Even in the processes of deductive reasoning, funda-

[1] There is room here for a great diversity in philosophical interpretation. The Positivist, seeing his collectivism confirmed, rests with satisfaction upon his oars, or seeks to carry out a socialistic programme. The Spiritualist finds the social dialectic merely a drawing out or education of the social "faculties" of the soul, born with the body. The Hegelian finds in it empirical evidence of the wider dialectic of the absolute Self coming to consciousness in man. To one who holds the radically genetic point of view it is a process of new formation, a formative process *sui generis*. The self is made out of social ingredients. Without them the inherited mental characters would have no chance to complete themselves in a person. As in other cases of radical genesis, the outcome cannot be reduced to its elements or explained by them; it is a new "genetic mode" of reality.

[2] An early anticipation of the place of imitation in social life is to be found in Bagehot, *Physics and Politics* (1872).

mental social conditions of genesis are never wholly concealed: the "proposition" is a social "proposal" or suggestion; the conclusion is held to be valid for all persons as well as for all cases; even the constructive categories of thought are founded on racial experience ingrained in individual endowment. There is a synnomic force in all reflective thought, in all science.[1]

II. *Affective Psychology.*—Under this heading we may place for our present purposes the psychology of the functions which are included under the "motive powers" of the Scottish writers and the *Gemüth* of the Germans: the general phenomena of feeling and will.

[1] This has become more and more plain as the "psychologising" of logic has gone on in a series of works in which thought has been treated not merely formally, as of old, but as an actual instrument: the "Logics" of Lotze, Sigwart, Erdmann, Wundt, Bradley. In English this movement has been contributed to by Venn, *Empirical Logic* (1889), and Jevons, *Principles of Science* (1873). See also R. Adamson, *The Development of Modern Philosophy*, Vol. II (1903). Psychologies which show this tendency are those of Jodl, *Lehrbuch der Psychologie* (1896); Brentano, *Psychologie*, Vol. I (1874); James, *Principles of Psychology* (1901), and Baldwin, *Handbook of Psychology*, Vol. I (1889) and *Experimental Logic*, Vol. II of *Thought and Things* (1908). The theory of judgment has become the storm centre, since Brentano announced his view that judgment is an original function. In the outcome, the Aristotelian logic has lost much of its importance; it has been driven to interpret the formal elements of thought either, on the one hand, as symbols of an absolute principle, with Hegel; or, on the other hand, as symbols of mere logical and mathematical relationship, with the "symbolic" and algebraic logicians. Symbolic logic in the latter sense was founded by Boole, *An Investigation of the Laws of Thought* (1854). The movement of "psychologism" has been further accentuated since the impulse of the genetic point of view has been added to that of the psychological, in the later treatises of the pragmatic school. A note on "Psychologismus" is to be found in Klemm, *Geschichte der Psychologie*, pp. 165 ff; the reaction against it in Germany is led by Husserl, *Logische Untersuchungen* (1901–1902).

The recent advances made in these subjects are important, but not surprising, seeing that in the historical development of theories they have been neglected. Knowledge and thought have had a "trust."

The Kinæsthetic Theory.—For Locke and the French spiritualists the "sense of effort" was the citadel of the inner life. It was connected with mental activity because it seemed to be the channel by which mental initiative expressed itself. The outgoing nervous currents were its agents in moving the muscles.

This was formulated in the "innervation theory" of effort. According to a group of writers, of whom Wundt[1], remained long the protagonist, the seat of physical effort was the centre of actual discharge of energy from the brain, the process being the "innervation" of this centre; in straining to move the arm, and succeeding, we feel the motor or "efferent" energy passing out, proportional in quantity to the effort made.

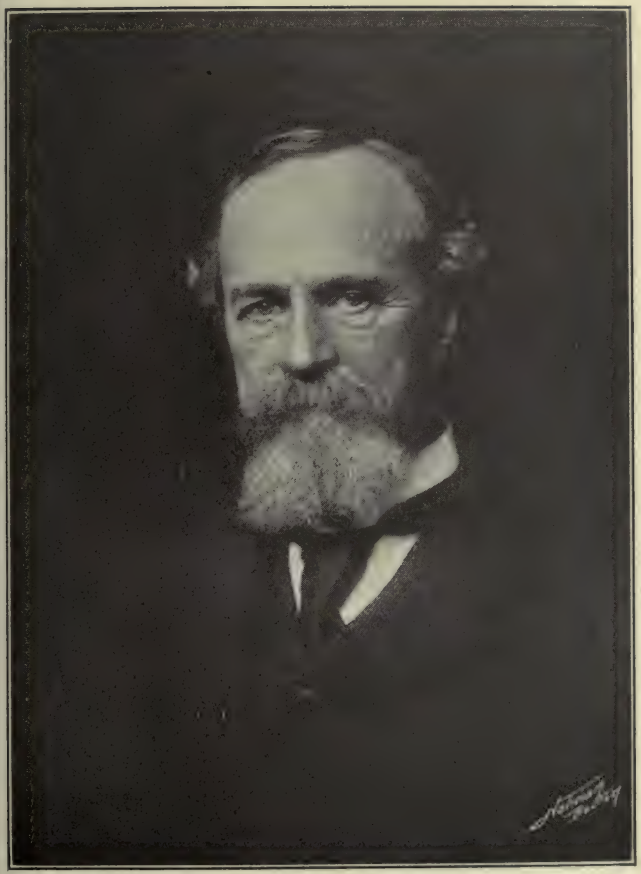
Bastian[2] and James radically disputed this theory. It was declared that effort was sensational, due, like other sensations, to "incoming" or "afferent" currents, to peripheral excitation. Various sensational accompaniments were pointed out in the muscles of the throat, scalp, and organs affected, without which the particular effort could not be made.

The experimental examination of muscular sensation in general came to reinforce this contention. It was confirmed also by phenomena observed in troubles of speech and writing.[3] This view, known as the kin-

[1] W. Wundt, *Grundzüge der physiologischen Psychologie*, 1st ed.; in later editions Wundt has gradually modified his view, attempting, however, to save his "terminology" (see 6th ed., 1908–1910).

[2] Charlton Bastian, *Brain as an Organ of Mind* (1880), who suggested the term "kinæsthesis"; W. James, *The Sense of Effort* (1880).

[3] See E. Stricker, *Über die Bewegungsvorstellungen* (1882), and



Notman, Boston. *By permission.*

WILLIAM JAMES.

æsthetic or peripheral theory, in opposition to the innervation or central theory, has gradually come to prevail. Effort is always directed in certain channels; and what we feel is the incipient stirring up of the sensational processes involved in the muscular action effected by means of these channels.

Late discussion, moreover, shows that the feeling of outgoing energy is not necessary for the grounding of spiritualism. The consciousness of effort remains the same in any case. The "outgoing" or discharge of energy is as much a physical process as the "incoming"; it amounts to what a group of recent sensationalist writers have called "centrally initiated sensation"[1] —the differences characteristic of central states being concealed under the term sensation.

The kinæsthetic point of view rapidly extended itself. Thanks largely to pathological cases and to medical research in aphasia, paralysis, hysteria, etc., it came to be applied to voluntary movement as a whole, as has been indicated above. In the theory of muscular movement, based on kinæsthesis, it is contended that a sign, image, or "cue" immediately or remotely[2] equivalent to sensations of movement must be in the mind before the will to move can take form in concrete effort or issue in movement. The effective "idea" of how the movement "feels" must be present to start the energies of actual movement. This equivalent "idea" is a mass of kinæsthetic reverberations due to earlier movements.

Über die Sprachvorstellungen (1880), and the literature of the "internal speech" and volition, summarised in the writer's *Mental Development in the Child and the Race*, Chaps. XIV (especially) and XIII.

[1] See Külpe, *Grundriss der Psychologie* (1893).

[2] See James' later discussion. *Principles of Psychology* (1890), chapter on "Will."

The applications of the principle were not yet finished, however. Two writers, C. Lange [1] and W. James, applied it about the same time to emotional expression and to emotion itself.

The theory of "emotional expression" announced by Darwin in his book on the subject [2] started new interest in the life of feeling. It established an important link in the Darwinian chain binding man to the animals. To Darwin all emotional expressions—seen at their best in facial expression—were either (1) survivals of "serviceable associated habits," (2) movements antithetic to these habits, (3) or movements resulting from "direct nervous discharge." On these three cases his three laws of expression were based. That of "serviceable associated habits" was the revolutionary one. It recognised, in the great fixed expressions accompanying emotion, useful defensive and offensive actions, acquired by the animal in crises involving high emotion. The expression of fear, for example, is what remains of actions found serviceable by the animals in conditions occasioning fear; that is, in danger of some kind. This principle was concretely demonstrated by Darwin, and is rarely disputed to-day.[3]

The further application of kinæsthesis consisted in saying that all consciousness of emotional expression, like that of effort, is kinæsthetic or afferent in its

[1] C. Lange, *Über Gemütsbewegungen* (German translation, 1887, from the Danish); James, *Mind*, ix, 1884, and *Principles of Psychology* (1890). James' later revised formulation is to be found in the *Psychological Review*, I, Sept. 1894.

[2] Ch. Darwin, *The Expression of Emotion in Man and Animals.* Other works on expression are Bell, *The Anatomy of Expression;* Mantegazza, *Physiognomy and Expression;* Mosso, *Fear.*

[3] Darwin's other laws are in dispute, especially that of "antithesis." The "direct" nervous discharges of a convulsive confused sort, produced in conditions of strong emotion, seem to be general phenomena of intensity and overflow of a kind

GUSTAV THEODOR FECHNER.

nervous basis; and, further, that this consciousness is no more nor less than the emotion itself. In experiencing an emotion, we are conscious of the incipient stirring up of a mass of expression. This would mean that instead of having an emotion and acquiring its expression by the law of associated habits, one should say that the habits acquired by the animals in defence and offence have left after-effects which are felt as emotion.

This has been widely admitted for the "coarser" inherited expressions. James' last pronouncement tended to limit it to these. The higher emotions and sentiments, intellectual, æsthetic, etc., which have less evident expression, are in dispute.[1] It would seem that if the emotion is due to a previously established adaptive and serviceable action, some principle of direct excess-discharge, such as that supposed by Darwin and Bain, would have to be assumed to account for this adaptation; and in that case we may say that this discharge may be a factor which in its nervous seat, and possibly also in consciousness, is not kinæsthetic.[2]

The importance of the kinæsthetic principle, however, is undisputed. It results in handing over the entire body of movements, both voluntary and involuntary, and much of the life of feeling, to the sensationalist

which the principle of "dynamo-genesis" would lead us to expect. So far as this leads to new accommodations, it recalls the "excess discharges" and "overproduced movements" made use of in the Spencer-Bain theory explained above.

[1] A thorough discussion is to be found in Lehmann, *Die Hauptgesetze des menschlichen Gefühlslebens* (1892). Recent experimental results on feeling are discussed by Titchener, *Elementary Psychology of Feeling and Attention* (1908).

[2] Bastian, an English physician, the first kinæsthetic extremist, so to speak, does not generally receive due credit. He held that the brain-centres usually called "motor" are not discharge centres, but centres of "kinæsthesis."

theory. The motor consciousness becomes one of sensations of movement and their reinstatement; and sensations of movement are merely a special class, or number of classes, like those of sight and hearing.[1] The theory of mental activity and spiritual reality must find its claim elsewhere than in the superficial sense of activity which accompanies muscular movement.

As further result, the theory that considers emotions as compounded of pleasures and pains receives its death-blow; as also does the intellectualist theory, according to which all emotion is due to the play of ideas.

Later analysis distinguished feeling from sensation. Physical pain has been isolated as a sensation; mental discomfort remains a feeling. Bain found feeling to reside in a certain ruffling or "exciting" effect upon consciousness. Mere consciousness itself is looked upon by many as feeling. One "feels," as Bradley holds, the operation of each and all the functions alike; feeling is then identified with "immediacy" to consciousness, or with mere subjectivity.

A broad formulation justifies the use of the terms "affection" and "affective" as applying both to concrete feelings or emotions (called "objective feelings") and to cases in which conditions of consciousness or the self are directly reflected ("subjective feelings"). Between these extremes lie the more vague qualitative sentiments, moods, etc., in which the objective conditions are less definite.[2]

[1] Experimental analysis has shown that the tactile-muscular group of sensations includes several sense-qualities which probably have distinct nervous elements, *i. e.*, "pressure" sensations, "joint" sensations, "temperature" sensations, as well as sensations of "touch" and "muscular contraction."

[2] So far from lending itself to a theory of an ultimate "element" known as "affection," this latter term is justified only

TH. RIBOT.

[From Baldwin's *History of Psychology*, Watts & Co., 1913.]

Affective Revival and Affective Logic.—The movement away from the intellectualist theory of feeling has assumed the proportions of a thoroughgoing revolt, led by Ribot. Ribot asserted not only that feeling—emotion, sentiment, etc.—was an original state, not dependent on presentation; but also that feeling had its own independent revival (*mémoire affective*), association, and generalisation (*logique affective*). There is a "logic," a series of imaginative and subsumptive processes, in which feelings—not ideas nor "ideas of feeling," but feelings themselves—are the subject-matter.[1]

The bearing of this appears as soon as the current intellectualist theory of revival is recalled to mind. According to it only states of knowledge, consisting of images, cognitions, relations, etc., can be revived. All memories are cognitive; only presentations can be recalled as representations. This means that the memory of a feeling or emotion is never produced directly, but always by means of the memory of the thing, idea, or bit of knowledge to which the feeling was earlier attached. The feeling is, therefore, new, and not revived; it attaches to an old cognition; it is never the reproduction of an old feeling.

This seems on the surface artificial and unlikely enough; but it "went without saying" until Ribot challenged it. Since then a variety of analyses, facts, and arguments[2] have established, in the opinion of

by reason of its extreme abstractness and generality. Indeed, "affection" has about the same relation to concrete "affections" that "feeling" has to "feelings."

[1] This may well be called the "autonomous" theory of feeling, in contrast with "intellectual" and "organic" theories.

[2] Principally in French: see Ribot, *La Logique des Sentiments* (1904), and *Problèmes de la Psychologie affective* (1909); Paulhan, *La Fonction de la mémoire, etc.* (1904); Dauriac, *Essai sur l'esprit musical* (1904); various authors in the *Revue philosophique* for recent years.

many, the truth of affective revival; and its bearings are beginning to be worked out, with fruitful results, in a wide range of topics.[1] Those who accept it hold, in principle, (1) that feelings are directly remembered and associated; (2) that they are subject to a sort of "generalisation" in moods or sentiments; and (3) that in the general form they are available for more or less complex processes of description, intercourse, ejection, etc., in a way that presents analogies with the logic of concepts. Feeling has its "logic."

If this logic of feeling is founded in the active life, as some of its advocates hold, the theory joins hands with the motor and habit theories of generalisation, attention, synthesis, interest, etc., worked out by the functional psychologists.[2] In this wider movement, Ribot was also one of the pioneers.[3]

Animism and Ejective Processes.—The ghost of animism has haunted the psychological house ever since the corner-stone of the structure was laid by the Greeks. Beginning with mystic "participation" and

[1] Such as those of "valuation," "common" emotion, "community" in morals and art, etc.

[2] The extension of the idea of "affective memory," like that of the kinæsthetic, seems to be "destined." It is fit to survive; no doubt in part on account of the extreme unfitness of the intellectual theory, which breaks down in many fields. Musical phenomena, and those of fine art generally, furnish rich data, the more because these sentiments have never had any plausible theoretical treatment. The present writer feels free to say this because of his own conversion to the affective theory, occurring between the publication of the "theory of social matter" based on intellectualism (*Social and Ethical Interpretations*, 4th ed., 1906, Chap. XII), and that of the "logic of practice" (*Interest and Art*, Vol. III of *Thought and Things*, Chaps. VI and VII), where the logic of feeling and interest is accepted and extended. The literature, apart from the French writers cited, is not extensive: see Urban, *Valuation, Its Nature and Laws* (1909), and *Psychological Review*, VIII, Nos. 3 and 4, and the literature of Valuation (both *pro* and *con*).

[3] Ribot, *La Psychologie de l'attention* (1895).

occult "possession," as revealed by the anthropologists and students of human culture, it passed into the "pan-psychism" and "anthropomorphism" of early speculation, as narrated by the historians, and became popular in the religious dogmas of "transmigration" and "demon-worship," as recorded in many sacred books. The history of psychology down to Descartes shows, as we have seen, a prolonged effort to restrict the sphere of the mind-term of what became at last a strict dualism of substances.[1]

As with the other spontaneous solutions of the riddle of the world, animism recurred in the reflection of later philosophy, in the form of reasoned pan-psychism and psychic atomism. The grounding of such positions, however, had to be more secure than that given to animism in early social tradition and religious faith. The result took form both in attempts to account for the tendency to "animate" nature—to find the motive of animism in general—and in attempts to find out how much truth it really embodies. Allow to primitive man definite motives for believing in the soul-life, the *Beseelung*, of nature, how far, it is then asked, is he right in doing so?

This distinction of questions is brought out in one of the influential theories of recent times, the theory of "introjection" of Avenarius.[2] This writer finds in animism a necessary and universal procedure for the apprehension of the world, having its roots in social situations and extending to animal life. The dog that

[1] A historical account and appreciation of animism is given in W. McDougall's *Body and Mind, a History and a Defence of Animism* (1911).

[2] Richard Avenarius, *Der menschliche Weltbegriff* (1891); see also his *Kritik der reinen Erfahrung* (1888–1890).

sees another dog eyeing the same bone with himself acts in a manner to show that he finds in the second dog a sort of mind. In some crude way he apprehends the other dog as having the character we call mental. He is, then, in so far animistic. This appears in the jealousy of animals, sometimes directed even toward inanimate things. This is "introjection."

On this view, the presence of animism in early societies and in the earliest speculation is well-motived and necessary. Its universality as reported by the anthropologists would lead us to expect this. It is further supported by the fact that there is in social and individual thought, alike, a "projective" period in which the first panoramic apprehension of things sees them as in movement, as-if-animate, not as dead and still.[1] A sort of mind-meaning is projected into things.

Avenarius answers the second question also. He finds that although introjection or animism is necessary, in the development of thought, it is none the less mistaken. The world is not what the animistic interpretation takes it to be. It is the business of reflection to correct it, by a re-interpretation of the phenomena on which it is based. In other words, after the development of dualism there comes always historically the interpretation of dualism; an interpretation extending to the genetic motives by which the dualism itself was created.

One of these interpretations (not that supported by Avenarius, however[2]) looks upon animism as a stage

[1] The term "projective" is freer than "introjection" from positive implications, and also from the further special bearings given to introjection by Avenarius.

[2] Avenarius' interpretation is based upon an experiential criti-

in the evolution of thought, not necessarily wrong, certainly not illusional, but relatively crude; a first interpretation.

The vitality of the animistic position is seen in its recent history. It still lives in its mystic and occult forms as a psychosophy, no less than in philosophical and psychological theories. We have with us the emotional and mystical spiritists, as well as those who reach the same conclusion by way of "psychic research," the revelations of "telepathy," or other more or less serious methods. A remarkable outbreak of psychosophy or occultism, together with earnest attempts to deal with its problems scientifically, has marked the history of the last generation.[1]

Alterations of Personality and the Unconscious.— A departure of more evident scientific importance, bearing on the question of the unity of the mental principle, is found in research in the field of double and multiple personality. Beginning with the investigation of hysterical patients whose field of personal consciousness was much restricted, through the loss of

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cism, *Empiriocriticismus*, of the whole of experience considered as a system; see the *Kritik der reinen Erfahrung*. This has been developed by Rehmke, Höfler, and other writers of the "immanental" school, who have emphasised the presence of "form" in mental operations. To them "form-quality" *Gestaltsqualität*, extends not merely to formal rules or norms, but exists in actual qualities in consciousness; such as the identical form of the same melody when rendered in different keys (J. Rehmke, *Lehrbuch der allgemeinen Psychologie*, 2nd ed., 1905; H. Höfler, *Psychologie*, 1897).

[1] As to the results, opinions differ from the negative of most of the professional psychologists to the more favourable verdict of those who think that the separate existence of the soul and its immortality have been scientifically demonstrated. See *Proceedings of the Society for Psychical Research* (1882 ff.); also Hyslop, *Problems of Psychical Research* (1909).

sensibility in localised areas of touch, vision, etc.,[1] it extended to the observation of trance conditions, in which alternating or simultaneous personalities appeared in the same living body. Among the most remarkable cases are those reported by Flournoy and Prince.[2] It has been shown that portions of the nervous system may function in relative isolation and detachment, the disturbance showing itself in the presence of partial mental aggregates which tend, in James' phrase, to "take on personal form." Interpretations of these parts vary from the purely physiological to the psychological and spiritistic. The advocates of pan-psychism explain it by the hypothesis of elementary psychic or "soul" properties, supposed to attach to each living cell or unit of the body. Materialists find in it evidence of a real disintegration or decomposition of mind, the normal unit personality giving evidence merely of the larger unity of organisation of the brain.[3] A radically functional view of mind sees in these phenomena merely the consequence of psycho-physical parallelism. If, it may be asked, binocular vision can be so deranged that the two eyes see "double," why may not the same be true of any more or less distinct portions of the nervous system?—assuming, that is, that each preserves its own functional integrity.

A secondary result appears in the new light these facts throw upon the question of the unconscious. In the cases cited, evidently, the sensations, memories,

[1] Binet and Féré, *Animal Magnetism* (1886); Binet, *Altérations de la personalité* (1892), in English translation; Janet, *L'Automatisme psychologique* (1889). In these investigations, hypnotism proved to be a valuable instrument.

[2] Flournoy, *From India to the Planet Mars* (3rd ed., 1910); M. Prince, *The Dissociation of a Personality* (1905).

[3] See H. Maudsley, *Body and Mind* (2nd ed., 1873).

etc., which are outside the "primary" or normal consciousness are not really unconscious; they are present in a subsidiary or "secondary" consciousness, so far as they remain mental at all.

Ejection and Semblance.—A new form taken on by the animistic concept has appeared in modern discussion of religion, in the theory of the "eject." The English positivist, Clifford,[1] defined God as the form in which the human mind "ejects" its own being or self out into the world. The human self, at each stage of culture, is idealised and set up as a personal object of worship. God becomes, in the phrase of Romanes, the "world-eject"; like the world-soul of the ancients, it is a projection on a larger canvas of the image of the human soul.[2] God is made in the image of man rather than man in the image of God.

The hypothesis of ejection has worked forward to suggest exact empirical research, as well as backward to confirm the studies of the anthropologists. In two recent departures we see its reinstatement: one in the statement of the process of individual growth in self-consciousness (already adverted to, and to be discussed more fully in the chapter on "Interpretation"[3]); the other, in the discovery of the facts of æsthetic "semblance" or "empathy."[4]

[1] W. K. Clifford, *Seeing and Thinking* (1879).

[2] A modern statement of the world-soul theory is to be found in Fechner's *Nana* (1849); see also his *Zend-Avesta* (2nd ed., 1900-1902).

[3] Chapter VII, below.

[4] A term suggested by Titchener and Ward as rendering for the German *Einfühlung*. "Æsthetic semblance" is the equivalent of "empathy." It is to be hoped the confusions may be avoided in English that have made the German term almost useless. It has become equivalent to "animism." Empathy is no doubt the best term for the strictly æsthetic movement, some other and more general word such as "semblance" being used for the entire group of analogous imaginative processes.

In spite of passing anticipations,[1] the credit belongs to Th. Lipps of having investigated the facts and formulated the rules of the sort of semblant or imaginative reading of the self into æsthetic objects which he calls *Einfühlung*.[2] In his important work, *Æsthetics*, the principle is made one of universal explanation.[3]

It appears to explain the fact that in æsthetic appreciation the spectator has a certain sympathy or "fellow-feeling" (Mitchell) for the object, apprehending it *as-if* it could itself feel; that is, as if it were animate. In this broad tendency, we see the kinship of the movement with those of animism and ejection, and this suffices to give to it its first classification.

But we find that the treatment of the æsthetic object as if it could feel, or as if it were a self or subject of feeling, involves the sort of mental movement that all *as-if* or "semblant" functions involve: a sense of "make-believe," "self-illusion" (Groos, *bewusste Selbsttäuschung*), willing deception (Paulhan, *mensonge*), *Schein*. We speak of the "illusions" of the theatre, the "make-believe" of play, the artificial conventions and "hypocrisies" of social life; all these contain alike an element of "as-if" or pretence, which we all agree to and allow to pass. This results in a second and narrower classification of the æsthetic phenomenon: it

[1] Notably that of Lotze in *Über den Begriff der Schönheit* (1845). See also his *Microcosmus* (1856).

[2] Th. Lipps, *Raumaesthetik* (1893–1897); *Aesthetische Einfühlung* (1900); *Aesthetik* (1903–1906).

[3] See also K. Gross, *Der ästhetische Genuss* (1902). In English the literature is not extensive: see Mitchell, *Structure and Growth of the Mind;* W. M. Urban, *Valuation, its Nature and Laws* (1902); Baldwin, *Interest and Art* (1911). For a full exposition of German discussions see V. Basch, *Revue Philosophique*, Vol. XXXVII, Nos. I and II, and for thoroughgoing criticism, Ch. Lalo, *Les Sentiments esthétiques*. Cf. also Paulhan, *Les Mensonges de l'art* (1906).

is a case of semblance. The æsthetic object simulates the real; it does not assert reality. It depicts; it does not narrate.

But we have not yet come to the differentia of *Einfühlung* or empathy. The æsthetic object is not only (1) a semblant object which (2) falls in the class of beings that feel; it is further (3) endowed with the human life and with the very feeling of the spectator himself. It is a process of ejection, of the semblant re-reading, *of the personal self;* it is an auto-projection of the self into the work of art or the beautiful thing.

Apart from other possible criteria or essential marks of æsthetic experience—such as idealisation—this, it is claimed, is one criterion and essential mark.

This discovery, apart from the unchastened use made of it in certain of the more speculative German treatises,[1] is recognised by many as a notable advance. It seems to include and to unify many of the partial insights of earlier writers on æsthetics. It is vigorously opposed, especially by the "intellectualist" [2] and "technical" theorists, who find æsthetic value respectively in a rational idea and in the technical sufficiency of the work of art. It constitutes, however, a notable advance in the understanding of the æsthetic sentiment as such.

The Attention.—As remarked above, the problem of attention was neglected until modern times. It was taken up by Condillac and the French spiritualists,

[1] The passage from the strict æsthetic mode of ejection to the broader meanings of semblance and animism has brought confusion into the discussion and opened the door to hostile criticism. Instead of the empirical meaning of the sense of self, of whatever grade, a metaphysical principle, "the Self," is invoked to explain the facts.

[2] For a presentation of the intellectualist theory, see B. Bosanquet, *History of Æsthetics* (1892), a work written from a very *ex parte* point of view.

notably Laromiguière, who found in it evidence of pure mental activity. Fries distinguished "involuntary" from "voluntary" attention.[1] Its growing importance in recent psychological theory is the result of several somewhat distinct causes.

In the first place, the discovery of hypnotism and its investigation brought the attention into critical notice. The two schools of Paris and Nancy, differing widely in theory, still agreed on the technique of hypnotism, as requiring the induction of a fixed or static state of attention, directed upon a single idea (*monoidëïsme*). It was through this state that the sleep in which the "suggestion," essential to the Nancy view, was found to take place, and also the states of relative trance, considered characteristic of it by the Paris authorities, were alike induced.[2] This has remained perhaps the greatest gain from researches on hypnotism; for light was thrown upon the function and the effects of attention. In pathology, it has resulted in the resort to mental symptoms and diagnosis, as supplementary to physical, and to theories based upon a variety of disturbances of the attention, found in mental disorders.[3]

Again, investigations in both experimental and animal psychology have shown the attention to be of capital importance. States of distraction, preoccupation, over-concentration, etc., are matters of high importance in the control necessary to experimentation

[1] The former belonging to the "lower order" of processes, memory, habit, and association with imaging.

[2] The Paris school is represented by the authorities of the Salpêtrière hospital, led by Charcot; the Nancy school, by Liégeois and Bernheim.

[3] See especially the work, *Les Névroses, etc.* (1898), of P. Janet, who suggested the term "psychasthenia" as being more appropriate in many cases than "neurasthenia."

upon the mind; and the psychology of these different conditions is still to be worked out. In connection with reaction time, differences have been made out due to sorts or types of attention. In experiments on animals, the pre-requisite to any sound results—in investigation on learning, imitation, etc.—is that the attention be effectively attracted and normally engaged.[1]

These special indications converge upon the attention; and with them go indications given by the general psychology of effort and volition.

The result is a body of theories about attention and some experiments upon it. The theories are in general those which typical views of the mental life would respectively welcome. The "intensity," "inhibition," and "motor" or "dynamic" theories are the present-day alternatives. In the intensity theory one recognises the Herbartian and Humian notion that high intensity or vividness in a presentation is what is meant by attention; there is no function as such, called "the attention," which may be on occasion focused upon the presentation. This is, in short, a "content" theory, either sensational or presentational. In its sensational form it was stated by Condillac.

The "motor" theories are at the other extreme. They recognise a functional concentration or fixation of the mind upon the presentation, either drawn by the content or selective of it. For this theory it is "the attention," the "activity" of the spiritualist psychology identified with a mass of active or motor processes.

[1] The ever-present difficulty is to secure experimental conditions so natural that the animal is not distracted, confused, or made afraid. This is especially difficult when the natural gregarious habits are interrupted under conditions of isolation.

In the development of the mental life, the motor processes act as the adaptive and fixing agent; the attention is an organ of intellectual, as the muscles are of organic, accommodation. The actual motor elements involved have been variously described.[1]

The "inhibition" theory is, in a sense, a negative rendering of the intensity point of view. According to it, there is nothing intrinsic about a given presentation that it should be attended to; it is attended to, when it is, because of the inhibition or restraint of other contents, by reason of which these cease to be rivals to the former. The rival presentations fall away, or are held back, and the one left free stands in relative isolation, and so secures the vividness which we call attention.[2]

Contemporary Views of the Mind.[3]—The present

[1] See Ribot, *Psychologie de l'attention*. In the writer's scheme, for example, *Mental Development in the Child and the Race* (1886), the attention to a thing or idea may be analysed into elements, as shown in the following formula, $Att = A + a + \alpha$. A stands for the gross muscular and organic tensions of "getting ready," necessary to any act of attention; a for the more special processes of concentration to a class of things, as of the eye muscles in vision; and α for the most special processes of seizing upon and recognising the single thing or presentation. Every act of attention has "general" elements, "class" elements, and "individual" elements, all of them motor in character.

[2] Two recent summarising books are by E. B. Titchener, *The Elementary Psychology of Feeling and Attention* (1908), and W. B. Pillsbury, *Attention* (1908). Both these authors do scant justice to the "motor" theory.

[3] There are other special departures which might be noted before closing our brief exposition. Most important work has been done in mental pathology. The investigation of individual heredity and character was given a fruitful impulse by the works of F. Galton (*Natural Inheritance*, and *Enquiries into Human Faculty*), to whose initiation also—reinforced by the statistical methods used by K. Pearson on investigations on "bionomics"—it is due that the undertaking called "eugenics" starts out with promise for practical psychology and morals.

day sees the refined and reflective re-statement of older theories, but has its own preferences as well. The pendulum swung widely to the left in the late nineteenth century, when the "new" nerve physiology and pathology substituted the brain for the mind, and the advocates of the experimental method talked of a "new psychology without a soul." The middle point of the return swing was touched in the theory of psycho-physical parallelism and in the scientific agnosticism which professed a neutral attitude in respect to the nature of mental reality. This had the merit, at least, of silencing much of the philistinism of the "new" departures just referred to.

In the present decade the pendulum is moving to the right, toward a re-statement of the spiritual theory. It appears in the return to consciousness, considered as the first datum of knowledge—as in the movements of "neo-criticism," "immanentism," "radical empiricism."[1] The mind is said to be just what it seems to be, just what it shows itself doing and experiencing. The substance view of the soul is replaced by an "actuality"[2] view of the mind. Mind is what we actually find it to be; just as body is what the physicists find the properties of matter actually are. Psychology is as capable of dealing with mental changes and laws as physics is with physical.

This is supported also by thinkers whose interests are

[1] A phrase given currency by W. James. The point of view was explicitly taken up by Shadworth Hodgson (*Philosophy of Reflection*, 1878, and *Metaphysic of Experience*, 1898), in a sustained and original analysis of experience. As in Hume, the dualism of inner and external worlds is derived by this writer within the sphere of experience itself. With Bain and James, Hodgson (who died in 1912) takes his place as one of the foremost modern representatives of empiricism.

[2] See Paulsen, *Einleitung in die Philosophie* (1892).

moral. It permits the reassertion of the point of view of Lotze, according to which the mind has its own synthetic function, different from that of the brain, and possibly under some conditions—realised, it may be, in another life—independent of it.

This also appears in various forms of "intuitionism" and "immediatism." Of the former, the movement in France is especially noteworthy, where the revolt against the logical pretensions of the formal idealists is based upon a negative critique of conceptual knowledge. The resort is to immediate intuition, and to direct experience of life and the world.[1]

The immediatism which results from a critique of logical thought takes on various forms. Both feeling and will are resorted to, to make good the defects of knowledge. There is a new affectivism and a new voluntarism. The former takes shape in constructive æsthetic theory—a renewal of the pancalistic suggestions of Plato and Kant—and in thinly disguised mysticism. Voluntarism appears in forms varying from pragmatic relativism and psychological theories of value —considered as being more fundamental than truth— to the return to absolute will. Just now we have the day of feeling, passion, striving, as before the year nineteen hundred we had the day of reason, logic, conceptual knowledge.

[1] See Bergson, *Les Données immédiates de la conscience* (1890), and *l'Évolution créatrice* (1907).

Part VI.

GENETIC INTERPRETATION OF THE HISTORY

Chapter VII.

The Development of Individual Thought.

In the Introduction it was stated that in our exposition we would note the bearing of the analogy between philosophical and individual interpretations of the mental principle: between the race's and the individual's progressive understanding of the self. In various places, accordingly, we have pointed out in passing the application of this thought, and our main division of the history into epochs has illustrated it. The epochs designated prelogical (primitive), spontaneous (Greek), and reflective (modern), belong to the history of thought and to the history of the person alike.

The interest attaching to the facts will be enhanced if we state the principle a little more succinctly, especially in view of deciding what it does not imply. This we will first attempt; and then give a brief sketch of the actual course of the individual's normal development, in which the main stages will be thrown into relief. The points of correspondence between the two movements will then become plainer.

The parallelism or concurrence in question is this: the course of human interpretation presents a series of progressive stages which bear analogy, both in

character and in order of appearance, to the stages of the individual's progressive understanding of the self.

The reason for considering this parallelism as more than an analogy has been intimated above.[1] There is an important sense in which the two series appear to be not really two, but only one. The racial progression is due to a series of assimilations, on the part of society, of the thoughts or interpretations of individuals. Social thought is a re-reading of individual thought. On the other hand, the results reached by individuals are re-interpretations of socially current material. Individual invention and originality always proceed by a re-reading of earlier knowledge, belief, or practice. So far as the mere facts go, therefore, we see some reason for saying that the two series cannot be radically different or dissimilar. How could society, represented by the series of racial thinkers, reach results which were not also normally achieved in typical individual points of view? On the other hand, the individual's capricious imaginings, his atypical and purely personal fancies, would not "set" in the social mould or appear in the historical movement.

This is clearly the case with the topic of our inquiry, the self, whatever may be said of the less fundamental and merely factual beliefs and opinions. The view entertained by the mind is an interpretation of one of the two parts of the great world-cleavage into self and things; and the movements of the individual's thought, like those of the race's thought, represent a very gradual growth in the course of the entire experience of life. The self is achieved; it must be constantly tested and found to hold good; it is the permanent

[1] Introduction in Vol. I.

centre of values, both individual and social. Its development, therefore, in the one case as in the other, can go forward only by a series of adaptations reached through struggle and achievement; it is the outcome of a continuous travail.[1]

I. *The Rise and Development of Dualism in the Individual.* We will now inquire into the series of interpretations of the self and the world reached in normal individual development.

Psychologists find that the child very early comes to recognise in himself a centre of the events taking place about him. That is to say, he is the centre of his own apprehension and experience. But his early self is his whole person, not his mind simply. The physical person is the seat of the self; but it differs, he soon learns, from the things which are not persons.

[1] This leaves untouched, of course, the question of the nature of the developing principle; to take that up would be only to add our own interpretation to the rest. We are dealing here simply with history.

It may be well also to point out certain other questions which remain over; to indicate certain things which the principle here announced does not imply. (1) We are not dealing with the history of culture as such, the social attainment of an epoch or people; but with the theory of the mind or soul which we find expressed in the writings of its representative thinkers. (2) It is, therefore, most frequently the advanced thought, not the average social belief that we have to consider. (3) We do not raise the question—touched upon on another page—as to the possible achievements of individuals, at this epoch or that, had they been born in some other environment or epoch: the question of a real progress in human endowment. On the other hand, the two valid applications of the analogy in question are these: (*a*) that which rests upon social historical progress rather than advance in individual endowment; and (*b*) that which finds in the recorded or reported outcome of progressive human thought about the self an advance parallel with that found by psychologists in the development of individual thought.

What it is that makes this difference—the something that is present in the body to make it a person—he is to learn only very slowly.[1] It is his gradual discovery and interpretation of the meaning of this difference that motives his growth in knowledge. If we designate any sort of distinction between these two factors of personality, between mind and body, that is, as dualism, we may say that at first experience is probably without dualism. In more technical terms, it is "a-dualistic." But the dualism of mind and body takes its rise and passes through certain well-marked stages of development, the details of which we cannot here relate.[2] The principal movements, however, are as follows—

(1) *The Projective Stage:* the interpretation of all nature as crudely animate, without distinction of living and dead, mental and physical. As giving a first advance toward a sense of the meaning of the self, it is called "projective." Although a-dualistic, still its striking feature, movement, agency, mysterious force, is on the side of what afterwards comes to characterise mind as the self. This character is simply projected forward, along with the other marks of nature; it is not in any sense reserved for the self. It is also, so far as human—that is as representing human values and beliefs—a collective or common mode of apprehension. The child accepts the traditional and conventional estimates, methods and sanctions. He cannot

[1] For the theory of the social origin of self-consciousness see the writer's *Social and Ethical Interpretations* (4th ed.). Cf. also Royce, *Studies in Good and Evil;* Ormond, *The Foundations of Knowledge;* Mezes, *Ethics, Descriptive and Explanatory;* McDougall, *Introduction to Social Psychology.*

[2] On the progressive development of the dualism of mind and body, see the writer's *Thought and Things*, Vol. I, "Functional Logic."

be independent or logical, not being yet a complete individual. He is developing in the social matrix. The larger interest, representing the essential moulding of his personality by society, is all-absorbing to his curiosity and all-imperative for his practice. It is his nature, not his will, that leads him to follow the social trend.

(2) *The First Differentiation: the apprehension of persons as different from things*, without, however, the apprehension or interpretation of the marks of subjectivity. There is merely the discovery of an actual but indefinite difference; the marks that indicate an inner centre of experience are not separately cognised. The character of this difference appears as the positive marks of the contrasted terms develop (as given just below).

(3) *The Rise of Subjectivity:* the experiences of the inner life itself, its pains, pleasures, efforts, etc., are apprehended as belonging peculiarly to the self, which is for this reason "subjective." Every person becomes in this sense a subjective centre of personal experience, having emotions and desires which are peculiarly his own. The merely projective marks of personality are taken over from others by imitative absorption and found to be marks of the private self. By his awareness of this he becomes conscious of the individual mental life as a circumscribed area. This is the period of the rise of the subjective.

At this stage, the dualism takes on more definite form, since the objects of the world are those things which do not have the subjective character. The objective exists over against the subjective, the outer over against the inner, dead things over against conscious persons.

The young child's interest does not pass easily over to external objects as such; he treats them as instruments of action, means to ends, tools for the carrying out of personal purposes. His concern attaches in preference to persons, whose acts and attitudes constitute, with his own, the continued and highly interesting panorama of life. The interest so aroused and developed continues to be, as at first, a collective one, a social one; since his distinction of persons from things does not yet amount to the radical separation of persons as individuals from one another. "Man is the measure of all things"; but the meaning of "man" is that connoted by the collective "we." This is the "subjective-objective" stage.

(4) *Ejection.* This last-named stage of dualism—the "subjective-objective" stage—is confirmed and hardened by the process known as "ejection." By this is meant the tendency to understand other persons, and personality in general, in terms of one's own experience; to take the outline sketch given in one's own subjective life as fit to be placed upon the similar life of others. "They feel," says one, "act, and desire, as I do or as I should in their places. I understand them because they are selves as I am; my growing experience enables me to interpret their conduct constantly more accurately. In short, in the words of the social psychologist, I 'eject' myself into the other person; and that which is thus common to us both and to all individuals is the social self, the *socius*, of the group. It connotes a self of personal values, sanctions, and duties, in which all individuals by their very nature participate."

It is for this reason that the interests and values of the early life continue to be so distinctly collective and

social, even after the objective world as such is fairly apprehended. Only gradually are the motives of individualism released. Even the knowledge of things, resting upon sense perception, and confirmed on occasion by individual observation, is socially tested and supplemented; it is a body of "collective representation," as the French sociologists phrase it. Besides what it merely is for recognition, an object means what it is for use as a social utensil or instrument; just as to us adults, while a lamp-post on the corner is a post, it means withal a system of good or bad city illumination: it is both a thing and a civic symbol. In all this, there is the further connotation which is due to the survival of earlier collective interests. A child accepts the say-so of parent or teacher, and does not reflect or judge independently. In matters at all removed from immediate apprehension, the social standard and tradition are final and obligatory upon his knowledge and conduct. And even in cases of direct sensation, the social interest so floods over and obscures his perception that an a-logical and mystical meaning may be imparted to the simplest and most commonplace things and events. A similar state of mind is often present in adults, as in the Christian communicant's attitude towards the Host or its elements. What Christian, even the sternest Protestant, sees in the Eucharist merely a morsel of bread? Although bread, it is also the Body of Christ.

While, therefore, the individual at this stage of his growth does understand persons as being subjective, it is a social and practical subjectivity that he reaches, not one in which the single personal self and its interests are fully isolated. The character, ends, and objects of thought and life are collective. Everything is

socially prescribed and socially judged. The family, the school, the social set, embody the *socius* which is the subjective principle, over against objective and inanimate things.

(5) *The Growth of Objectivism.* A similar hardening of the objective term of the dualism goes on, but much more slowly. The child only gradually comes to interest himself in things for themselves and in knowledge for itself, apart from the personal concerns to which they are instrumental. He has to be taught to observe things and describe them accurately, to report exactly what he sees and hears. His definitions are couched in terms of interest and practical use: a stone is "what you throw at birds," ice is "that which cools the water." It requires an enormous mental readjustment to effect the transition of interest to the objective pole of the world-dualism; and this even when all the pedagogical agencies of example, precept, and instruction are exerted to aid in the achievement of it. Never, in fact, do any of us completely emancipate ourselves from the subjective preference which is so largely of social origin. There remain always many of Bacon's "idols of the den": images of social origin and interest which we worship at the expense of the colourless forms of objective and neutral truth.

But the process of logical emancipation does go on. The factors of external reality, which we find to be foreign to us; the actual data of sensation, which restrict our activities; the requirements of accuracy in memory; the need of common results among ourselves in the details of knowledge—all these things lead to the establishment of a body of facts and truths by which the movements of personal interest and preference are controlled. The boy's knowledge of the topo-

graphy of the neighbourhood becomes accurate, just as does the savage's knowledge of the regions of the forest in which he lives. Truth comes to dominate and guide his activities in the direct affairs of life; although preferential interest may continue to lead in the further interpretation, and result in the contortion of truth as soon as these direct affairs are lost sight of. The child knows that "Dolly" is not alive, and treats her on occasion as a mere inanimate thing; "Dolly" is then the objective doll. But "Dolly" is also the dear child, the preferred playmate, the injured loved one. The larger personal and sentimental interest engulfs the mere objective thing; and the world of persons, subjective and preferential, asserts its superiority with overwhelming force. The two "Dollies," born of the two rival interests, objective and subjective, live together without discord in the one porcelain image. So to the adult the mere thing, which is real enough, disappears in the holy object, the familiar fact in the mystic presence it signifies. In the "legal-tender" note, the mere printed paper merges in the social instrument of exchange and profit.

This doubleness of meaning, attaching to things generally, remains in the mind of most men in civilised society. But the progress of thought in the individual is, nevertheless, not arrested at this point. Individuals may, and many do, learn to reflect upon life and mind, and to attempt to construct science, even though most men remain ignorant of such problems. The passage into what we may call a reflective or logical dualism shows certain further motives at work.

(6) *Immature Dualism.* A continued embarrassment arises in the presence and rôle of the body, the physical part of the self. It is at once a mere thing and also

the intimate seat of the subjective life. The two interpretations to which inanimate things are open, on occasion resting side by side without great inconvenience, now come into flagrant opposition. My friend's body, and even my dog's, can never be to me a mere thing, although it is an external physical object. I always have to treat it as a living or personal body, a centre of feeling and action. So with my own body. It is, of course, a thing; but for me it is not only the instrument, it is the very residence of my self.

One way of escaping from this dilemma is seen in a growing emphasis of the subjective. The agent asserts himself to the extent of seeking to dominate the physical and control the things of sense and fact by force of personal preference and will, or by ignoring the physical altogether.[1] So a pronounced individualism is born. The growing child manifests a series of resisting, aggressive, and "contrary" attitudes; he rebels against authority and refuses to recognise facts. We say he is wilful—which is true!

In this tendency, the individual subject and its interests tend to free themselves from the social matrix. The sturdy self-assertive person appears, ready to disregard for the time the mere things which he uses as instruments of his efforts and purposes. And he finds in other persons centres of power and individuality like himself. A fruitful opposition of wills arises.

Another direction of growth appears in a lapse from the binding conditions of the dualism itself, when resort is had to a temporising personal attitude: a

[1] The psychosophic counterpart of this is seen in the quasi-religious views which recognise certain aspects of the physical while ignoring others because they are disagreeable or painful or "evil."

sort of hedonism, opportunism, and scepticism. This appears more simply in the individual than these descriptive terms, drawn from the sphere of reflective thinking, would indicate. It is a state of surrender, impotence, *laisser faire*. "What's the use?" "I don't care," "No good," are its expressions.[1] It leads, however, to the step taken in advance when both terms of the opposition are given due force and a further development of the dualism itself becomes necessary.

(7) *Psycho-physical Dualism.* Such a development could have only one issue. The hardening of the mind and body terms—each assimilating to itself a wide range of experiences—leads to the separation of the two types of existence into two disparate control-factors or substances. The spiritualism of early religious instruction and of conventional social belief is the refuge of the individual's thought. He believes that he has a "soul," a spiritual substratum, which is nevertheless placed in a body which is in nature and in fact separate from it. The body has a different substratum. Thus a spiritual world and a physical world arise over against each other. Their actual meeting-place is in the personal body. Here the psycho-physical bond is established by which the soul can act through and upon the body for the realisation of the ends of minds.

The particular form of this view depends, of course, upon the social environment: upon the influences brought to bear upon the individual. But in essence it is always the same. It is a "substantive" dualism,

[1] It is characteristic also of the lapse from reflection after failure and discomfiture, or when the vigour of thought is succeeded by weariness. In old age vigorous sceptics often return to faith, and irreligious rationalists resume their pious practices.

a dualism of substances, of spirit and matter, irrespective of any further definition of either. Before this the problem was that of separating mind and body in view of their common characters. This problem is now treated as answered: they are two disparate and separate substances. The problem then becomes the reflective one, how this can be? How are the two substances related to each other? How can mind and body interact, one with the other? From the point of view of theory, we call it the psycho-physical problem.

This is the question—not urgently asked or asked at all perhaps by the individual—whose solution takes form in reflective and logical alternatives. Society to-day, and the ordinary mature individuals in it, are and generally remain what we have called substantive dualists. It is the task of logical thought to go further in the way which carries human interpretation on to its more refined issue. The individual has now passed from the childhood period; from the prelogical and spontaneous stages of self-consciousness into the fully logical.

II. *The Logical Interpretation of Dualism: the New Dualism of Reflection.* The movement by which the logical or reflective faculty comes into operation in the individual mind is on the whole fairly plain. It involves simply the recognition by the individual that all the objects of knowledge—percepts, images, notions, ideals —all are, whatever else may be said, *in his own mind;* all are ideas, whatever they may prove to be besides. Their relative value is that which he, the subject, is justified, for one reason or another, in attaching to them. He thus reflects upon his ideas, upon any or

all of them, and judges what they respectively are and mean, beyond being mere ideas. Dreams, for example, are judged to have no further value; images are treated with discrimination, some being accepted as true memories, convertible into facts, others discounted as mere fancies; concepts are judged true or false, ideals worthy or unworthy. There is now, in short, a critical attitude, a further belief or disbelief in the availability of mental states, as representing and mediating something beyond themselves.

In this distinction between the subject and the whole of experience considered as objective to it, we have the further statement of dualism in the form known as "reflection." It is called reflective as distinguished from prelogical and spontaneous. It involves a certain reserve of the self over against the entire body of contents in the mind.

In this sense it affords a new dualism: the self is distinguished from the entire body of its ideas or thoughts; upon these it passes judgment. They are its objects, its ideas, its experiences, no matter what differences of value may be assigned to them as the result of reflection. The dream, the fancy, the memory, the hypothesis—all come forward as objects of thought for the inspection and judgment of the self which is the subject. The dualism of reflection is a subject-object dualism.

With this the various modes of logical process proper, argumentation and reasoning in its various forms, come into play; and the mind is launched upon its career of more or less independent thinking, speculative construction, and scientific discovery. From now on, all sorts of theories of the mind, of the world, and of God are possible.

III. *The Development of Imaginative Interpretation.*[1] It is of the greatest interest to note that the growing mind does not rest content with the dualisms that its social and practical life constantly produce. On the contrary, even the form of dualism produced by reflection itself demands revision. Along with the early strenuous endeavour to cope with serious situations, we find the child indulging his imagination in various ways to rearrange and re-interpret the more superficial reports of fact.

First of all, the play functions present to him the world of things and persons in a sort of make-believe or semblance, producing an "as-if" world, in which there is a remarkable room for preference and readjustment. He delights also in imaginative and mythical stories and legends, in fairy tales and wonder-lore, finding in all this a more immediately satisfying world than that to which the rude laws of nature and life introduce him. This tendency grows stronger with the growing years. We find it constantly taking broader form and evoking wider interest; until the entire content of life is shot through with a re-reading of things in the light of ideals, schematic and assumptive in character, erected by the imagination, and serving as standards of what might be or of what ought to be. Both persons and things take on the meaning which makes them part of a further world

[1] Meinong, *Über Annahmen* (1902), pointed out explicitly the rôle of imaginative "assumption" (*Annahme*) and its place as lying between perception and judgment. The doctrine of the "schema," in Kant's *Critique of Pure Reason*, is an earlier insight into the rôle of the semblant imagination, justifying the use of the Kantian terms "schema" and "schematism" in the discussion of this function (cf. the writer's *Thought and Things*, Vol. I, Chap. VIII, and Vol. II, Chap. IV), as we have already remarked above.

in which the terms of dualism are reconciled and its conflicts abolished. In the personal realm, the ideal of duty arises; in the external world, the ideals of order and truth. All this is semblant in the sense that, while not realised in fact, yet it has the semblance of reality. It is "as-if" real: a sort of prophecy of reconciliation and unity. So far as such an ideal unity is assumed or postulated in the personal and social life, it combines the subjective and ejective in the postulate of God, taken to be a real personality, absolute in character. The child takes this over from his elders as a final solution of the dualism of things; "God made both persons and things," he is taught to say. In this a more or less reasoned mysticism of a religious character—involving emotional elements of dependence, awe, and love—identifies the individual's interest with the corresponding racial motives of religion.

These ideals become thus embodied in assumptions or postulates of various absolutes: absolute truth, absolute goodness, absolute beauty. On the objective side, it is in the æsthetic consciousness, in the apprehension and appreciation of beauty, that this movement toward ideal unity and value seems to reach its culmination. In the thing of beauty the individual finds both his personal demands and the requirements of truth realised for the time and in a semblant way. During his full enjoyment of the work of art, he finds the subject-self merged with the objective thing; and it is with a distinct sense of loss and of lessened apprehension of the inner meaning of things that he sees the old dualism of self and object, desire and fact, re-establish themselves when he returns to prosaic life again. He says to himself: "Oh, that things were

always beautiful, that satisfactions need not clash with facts, that ideals were universally realised, as the thing of beauty shows me they may be!" And when he reaches a state of reflection he may well ask: "May not the æsthetic point of view be, after all, the profoundest? May not the real come by an experience of unity and ideality—a real which the dualisms of life and logic only serve to mutilate or distort? May not a return to the immediacy of æsthetic contemplation be the true course for our reflection as it is the resort of the spontaneous mental life, when harassed by the perplexities of partial mediation in this direction and in that?"

Be this as it may, the facts are plain. The imagination insists upon setting up its semblant interpretations of things: its postulate, its ideals, its absolutes, its God. It supplements, stage by stage, the results of one-sided knowledge and the incomplete ends of will; it abolishes, at least in the imagination, the finality of any sort of dualism, indicating constantly the wider view and holding out the larger hope.

It appears, then, in the light of this brief account, that the course of normal individual development shows marked uniformity in two ways. First, the exigencies of life require and produce adaptations which result in dualism between selves and things, between mind and body, between subject and object. This dualism goes through a series of transformations which, while refining, nevertheless harden and intensify it, up to the rise of the logical and reflective period. It then takes on the most refined and varied forms in the crucible of reflection.

But with this goes, *pari passu*, the development of the imaginative function, which shows at each period

a return to a sort of semblant or ideal unity. At each stage the finality of the dualism of the period is denied; and an immediate intuition of things, as ideally complete and whole, is revealed, extending to the entire mental life. This reaches its fullest form in the æsthetic consciousness, which succeeds to the earlier, more mystic modes of intuition, and clarifies their results. A thing of beauty, whether in nature or in art, is for the time apprehended as being both ideal as a thing and ideal for the self. It is as if the Creator, in saying of the world "It is very good," had meant "It is completely reasonable and wholly satisfying, because, as embodying my very Self, it is entirely beautiful."

In the individual, in sum, the development of the theoretical reason or intelligence culminates in laws of Truth for him absolute, that of practical reason or will in norms of absolute Goodness, and that of the emotional life, with which the imagination is charged, in rules of absolute Beauty.

Chapter VIII.

Historical Résumé. Results of the Comparison of Individual and Racial Thought.

It remains only to throw into relief the progressive line of historical thought about the mind—its contour, so to speak—showing the peaks and valleys, from ancient to modern times. This will allow us to utilise the parallelism between the racial interpretation of the self and the individual development of thought, and see how far it holds good.

I. The prehistorical and primitive period represents the true infancy of the mind. Its two great features—its mystical or prelogical character and its collective or social character—are equally evident in the child before the rise of conscious individuality and the power of logical thought. If the child could express his thought, we should have the same difficulty in describing and analysing it that the anthropologist has with the thought of primitive peoples. It is in both cases an infantile reproduction of tradition, a mystic participation illuminated by imaginative and romantic elements, and charged with the most poignant emotional possibilities. The child, like the savage in the prelogical period, is a microcosm, reflecting the larger macrocosm of social values, beliefs, rites, and sanctions, and participating in the mysteries of religious belief.

For the race, it is the period of psychosophic representation; of the morally epic and mystical; of magic and fearful religion. For the child, it is the period of

heroes, wonders, quaint imaginative constructions and logical impossibilities.

In view of the distinction that comes later on to dominate thought and make it dualistic, this period is to be described as projective: with the rest of nature, the mental is projected before the gaze in a sort of panorama. The prime distinction is not that between spirit and matter, mind and body; but that between the seen and the unseen, the evident and the hidden, the clear and the mystic. Behind the curtain of nature which is projected before the eyes there is a seething body of agencies working for good and ill. For psychology, the period is a-dualistic both to the child whose self is the animated body, and to the savage whose entire world is a mass of animated things.

The transition from this period to that of spontaneous thought takes place through the use of the imagination. Anthropologists tell us that the "myth" represents the primitive man's attempt to bring some sort of logical or dramatic coherence into his knowledge. They also find a genuine attempt on the part of the savage to justify and explain his most obscure and illogical traditions.[1] There is a gradual rationalising of social institutions, of games, fêtes, religious and tribal rites, etc., with the beginning of speculative thought, and with the development of political freedom.[2] The child similarly passes out of his bondage to common values and social conventions by the assertion of his individuality and the power of personal judgment, and by the use and abuse of his imagination.[3]

[1] So Boas, *The Mind of Primitive Man.*

[2] A. W. Benn, *History of Ancient Philosophy,* Chap. I, notes the influence of the early Greeks' sense of justice upon their philosophy.

[3] This is to say that in the individual and the race alike the

II. The second great racial period is that of spontaneous thought. It appears in the Greek thinkers before Socrates. No better characterisation of its growing logical character can be given than that conveyed by the statement that it shows the rise and early development of dualism.

Dualism in this sense means a departure from the flat, curtain-like vision of the projective period in the direction of the apprehension of a cleft in nature between the dead and the living, between agencies and effects. It brings forward the agencies which were behind the curtain, and defines them as in some sense minds. A first sketch is made of the distinction between those things that have a self and those that have not.

With the earliest thinkers, the Ionians, this appears in attempts to refine away the cruder features of the elements which are taken to represent life and the soul. Air, warm air, heat, fire, are more subtle and thin than the other elements of nature. Anaxagoras went so far as to call this refined stuff "reason."

Pythagoras took the next important step by subordinating the mere matter of nature to its essential principle of form and order, identifying the latter with reason or the soul. This, however, remained merely a distinction within the one "nature," not a difference between the two sorts of nature.

In the "clearing-up" work of the Pre-socratic schools, the seed of "subjectivism" was sowed. But

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assumptive or schematising imagination lies between perception and judgment. By its assumptions and semblant constructions, the imagination formulates the solutions and anticipates the confirmations of judgment and thought. The imagination is the *experimental faculty* among the mental powers.

it was a scattered and unintentional sowing. It was a reaction from attempts to launch the speculative boat, a return upon the beach, upon the thinking mind itself. The Sophists made ready for Socrates by clearing away the wreckage. They brought out the real meaning of the saying "the senses deceive," a saying common to Eleatics and Atomists alike in their attempts to account for the movement and plurality in nature. If the senses deceive, what we have left is merely the senses; not the objects of experience, but only experience. So the mind begins to be looked upon as something a little more certain than the external world; and a line of cleavage appears between mental nature and physical nature.

III. In Socrates the mental took on a more subjective character. This has been sufficiently remarked upon already. It has just the same capital significance in racial thought that the dawning of the sense of subjective personality has in that of the individual. Besides its positive character as a human attainment, it is the basis of the later and fuller achievements of thought. From the subjective soil grow the fairest blossoms of the mind.

In Socrates' thought the two marks of early individual self-consciousness appear; it is practical and it is social.[1] For Socrates, the subjective sphere in which truth defines itself is not individual but human, not private but social; and its end and criterion are not theoretical but practical, not logical but moral.

In the two great Socratics, Plato and Aristotle, the motives necessary—as shown in individual life—to the development of full self-consciousness, plainly appear. They have been designated in our account as "objec-

[1] See the preceding Chapter.

tive," "ejective," and imaginative or "semblant." Each of these had its explicit development.

Plato stands for the union of truth and goodness in the supreme idea of God. Plato's "ideas" give ejective rendering to the concepts of Socrates, which are thus taken out of the realm of the subjective and given metaphysical value. Moreover, the supreme idea is going on to be personal; it is God. The self becomes the "world eject," the absolute reason.

But God is also the *summum bonum*, the supreme good, the ideal of the practical life. Thus the moral demand of Socrates is also fulfilled.

Further, the emotional and imaginative cravings for completeness, unity and beauty, satisfied hitherto in the psychosophy of the time—the Orphic and Pythagorean mysteries, the popular legend of transmigration, etc.—and in the development of fine art and its folk-equivalent, the dramatic myth, becomes an intrinsic though inarticulate factor in speculative thought. The reconciliation of truth and goodness, the theoretical and the practical, in God, is reached by the exercise of the faculty of emotional intuition or love. In the ideals of feeling, the fully real, at once true and good, is seized by an act of mystic and æsthetic contemplation. By divine love, the human self overcomes all its dualisms of partial apprehension, in a contemplative oneness with God.

The self-consciousness of the individual is advanced also by the movement through which the objective is defined. The objective is that which is in a sense left over; it is the impersonal world of things, physical nature. This appears as a sort of rebound from the movement of subjectivity. In the historical progression Aristotle stands out as the "objectivist," following

upon the "subjectivist," Socrates, and the "ejective idealist," Plato.

In Aristotle, however, objectivism is only what it could be at such a time. It was not the objectivism of modern physical science nor that of a positivist philosophy; much less could it be merely that of the Greek Atomists, which was unaware of the subjective point of view. It was rather an objectivism that carried the mental life over to the objective, restoring the mind to nature. Mind to Aristotle was the form of organised matter; it was not a self-sufficient substance, of independent definition. Matter, also, was not a substance, set up in opposition to mind and free from the form of mind. Aristotle's theory was a reinstatement of the hylozoism and animism of the Ionic thinkers, enriched by the gain of a partial dualistic insight and by the conception of "nature." It was the objectifying of mind, however, that made Aristotle's contribution to psychology important; it enabled him to employ upon mental, along with physical facts, a sound observational method.

IV. In the Post-Aristotelian schools, the embarrassments due to dualism began to assert themselves, as they do in individual thought. The "relativity of knowledge" was extended from the senses to the reason. The development of individualism tended to impair political and social solidarity in practice, as it destroyed universality in thought. The dictum, "*Homo mensura omnium*," of Protagoras took on riper form in the personal resignation of the Stoics and the reasoned individual moderation of the Epicureans. The downhill tendencies of decaying speculation took effect in the ethical decadence of the Cyrenaics and Sceptics.

Like the individual, however, the racial self does not

rest, torn by its embarrassments. The individual resorts to the emotional, mystical, and idealising imagination; he forgets hard facts and stern duties alike in the semblant illusions of play, the fictitious situations of the fairy-tale and drama, and the synthetic representations of art. In the period of which we speak, the beginning of the Christian era, all these had long been familiar. In the speculative realm, Plotinus gave place to the imagination and renewed the "contemplation" by which Aristotle had interpreted the "love" of Plato; but with a fuller sense of its practical, if "other-worldly," value—due to the alertness of the new theological interest. The sharp weapons of Christian dogma were tempered by the softer alloy of Alexandrian theosophy. Plotinus, however, was the first to turn explicitly to mystic thought in and for itself; for in Plato it had been an emotional motive, and in Aristotle it was the copestone placed upon a theoretical structure. In Aristotle the mystic interest completed the system; in Plotinus it produced it.

With the Church Fathers, the power of religious authority and the forms of psychosophic faith came to impart new confidence to thought and new vigour to life. The dualism of spirit and flesh justified itself in terms of the philosophical distinctions of "subjective and objective" and "form and matter" of the late Greek period. The result, both in the Patristic and in the Scholastic writings, was a sharpening of the opposition between mind and body in the interest of Christian apologetics. That this outcome was welcomed as a means to religious faith, not as an end to theoretical interest, is seen negatively in the nature of the topics of discussion, and positively in the mysticism of the

Christian creeds. In the voluntarism of St. Augustine and the new Aristotelianism of St. Thomas, however, we see the motives of later reflective thought struggling to release themselves.

As in the individual, the struggle into personal independence and individualism is urged on largely by practical motives, so it was in the racial movement also. The motives of religious faith controlled the definition of dogma; and dogma in turn produced apologetic theories of personality—divine, human, demonic, and angelic. It was from the side of practical considerations, including those of national scope, that the pressure came by which the cleavage between mind and body, considered as two distinct substances, was finally produced.[1]

V. The cleavage came with Descartes, as we have seen. Descartes opens the period which is called reflective in the sense that the dualistic results of earlier thinking now become data for a further interpretation and for direct criticism. It was no longer mind and body as distinct terms that were to be interpreted; these had become presuppositions of reflection itself: but it was the dualistic relation as such, together with the assignment of ambiguous data of experience to one category or the other.

It was no doubt because of a waiting for "the fullness of time" that Descartes appeared only so long after St. Augustine. In the latter the definition of the function of reflection; the separation of mind from body and its definition (in terms of will); the use of a method

[1] "The complete severance of spirit and nature . . . began with the decay of Grecian life, in the age immediately subsequent to Alexander the Great."—Schwegler, *Hist. of Philos. in Epitome*, p. 184.

of observation suited to the mental material; all these essentials of scientific psychology were actually present. But the theoretical interest had to wait a favourable turn in the tide of practical and human concerns. It was held for generations in bondage to the theological, awaiting the dawn of the Renaissance.

The case is the same with the individual[1] when he passes into the period of reflective thought. All ideas alike, as we have seen, fall inside the sphere of reflection or judgment. The two control-categories of mind and body are present as presuppositions, nets spread out for the reception of facts. Each idea goes in one class or the other; it is the task of reflection to judge which. It is clear, then, that in Cartesianism, and in the developments known as "occasionalism" and "pre-established harmony" that followed shortly after, racial reflection did what the logical individual also does: it used dualism as point of departure or presupposition for the assimilation and reduction of the detailed events of experience.

This may be called the logical crisis in both series, the individual and the racial alike. It leads to a further reflective dualism, that between the self as thinking and

[1] One might insist upon the analogy here, remarking upon the apparent difficulty the race and the individual alike encounter in passing from a mature dualism to a reflection which interprets experience in terms of this dualism or by means of a criticism of it. The individual rarely becomes a philosopher; and the race had to wait for the rare philosopher who was to be its mouthpiece. Further, Occidental civilisation alone has produced the logical type of thought that embodies itself in speculative system and positive science. We may well imagine the world entire, still living in the practical and mystical types of culture, as represented by the Egyptian and Indian civilisations. The Greek and the western European developments seem to be the two historical cases in which the race has achieved an advanced logical mode of Reflection, so far as historical records show.

judging principle, and all the objects of thought, the ideas, whether these represent mind or body. The "subject-self" is set over against the "object-self," which is a content or idea in the same sense that presentations of body are. In the history of reflection, this presupposition of subjectivity is the explicit characteristic of idealistic thought. The distinctive problems of epistemology now appear. Besides the problem of knowledge, there is the problem of knowledge-of-knowledge; the subject not only knows objects, but it knows itself as object among others. This doubling upon itself is characteristic both of the reflective thought of the individual and that of the race. Its problems have been stated and their principal solutions worked out in modern philosophy since Descartes.

It is of great significance that this point was reached through the urgency of emotional or affective motives no less than of those of thinking; in Boehme no less than in Descartes. The distinction of subject and object came, in the one case, out of the embarrassment of thought; in the other, out of the aspirations of faith.

Thinking having appeared, it is evident that reflection may take on protean forms. Modern psychology reflects the alternatives which philosophy has worked out in its varied systems, so far as these concern the mind. Looking upon the movement of thought as it appears in perspective, we see the early alternatives reproduced each for itself, with critical and historical justification, in the modern period. It is in respect to variety and refinement of enterprise, to richness of data and power of criticism, to sobriety of method or its opposite—deliberate speculative licence—that the analogy with the individual now holds good. Positivism, rational-

ism, and immediatism—science, philosophy, and faith broadly understood—are the modern alternatives. As in modern culture, so also in individual thought, the choice among them is largely a matter of temperament.[1]

In conclusion we may say, in view of the confirmation that our study has given of the parallelism between individual and racial thought of the Self, that in the history of psychology we discern the great profile which the race has drawn on the pages of time. On closer inspection it appears to be made up of a great number of smaller profiles, placed on end, coming down the line. Each of these in turn, more distinct in detail and fuller in outline than the last, contributes something to the larger picture which is the portrait the race has made, and is making, of the human Self.

[1] See above, Chapter VII of Vol. I, *ad fin.*

THE END

INDEX TO VOL. II

The figures printed in heavy type indicate the most important citations.)

Absolute, of Schelling and Hegel, 39, 45
Accommodation, **97** ff.
Action, to Fichte, 38; to Schleiermacher, 45
Active powers, to Herbart, 65
Activity, mental, to Laromiguière, 50
Adamson, R., 111
Æsthetic, of Kant, 20; of Schelling, 39 f.
Æsthetics, Kant on, 23 f.; psychology of, **126** f.
Affection (and affective), **118** f.; a revival, 120; logic, 120
Affectivism, (see Mysticism); 31
Alexander, S., 107
Alhacen, 74
Alter, the, 109
Alterations of personality, 124
Anaxagoras, 153
Animal psychology, **86** ff.
Animism, **121** ff.
Anthropologists, English, 105
Anthropology, Kant's, 27; Hegel's, 42
Antinomies, Kant's, 21
Antithesis, Darwin on, 115
Aphasia, 74
Apperception(ism), 7; transcendental in Kant, 21; 27; to Herbart, 64; 70
A priori, the, to Kant, 20; to Darwin, 79; to Spencer, 82
Aristotle, 7, 30, 48, 58, 86, 156
Art, to Schelling, 39
Association(ism), Hume's, **5** ff.; by resemblance, 7; by contiguity, 7; by cause and effect, 7; by contrast, 7; to Th. Brown, 48; in England, **48** ff.; to Spencer, 84
Assumption, 149 f.
Attention, to Laromiguière, 50; modern theories, **128** ff.
Automatism, 59 f., 97
Avenarius, R., 122
Avicenna, 98
Bacon, F., 1, 49, 52, 56, 59
Bagehot, 110
Bain, A., 66 f., 75, 93 f., 100 f., 117
Baldwin, 111, 127
Barth, P., 102, 107
Basch, 127
Bastian, Ch., 74, 98, 112, 117, 132
Baumke, 2
Behaviour, animal, 87
Bell, Sir Charles, 116
Beneke, 33
Benn, A. W., 55, 152
Bentham, 46
Bergson, H., on instinct, 89, 133
Berkeley, Bishop, 15, **17** ff., 22, 50
Bernard, 26
Bernheim, 129
Binet, A., 125
Biran, Maine de, **50** f.; portrait, 51; 79
Boas, F., 152
Bohn, 99
Boole, 111
Bosanquet, B., 36, 107, 128
Bradley, F. H., 36, 66, 111
Brehm, 86
Brentano, 71, 111
Broca's convolution, 74
Brown, Th., 48
Buffon, 86
Caird, Ed., 36
Carpenter, W. B., 72
Categories, Kant's, 26; dynamic, of Biran, 52
Cause, to Schelling and Hegel, 42; in Lotze, 68
Charcot, 129
Child-psychology, 102 f.
Chronometry, mental, 76
Church Fathers, 157
Circular reaction, 92
Claparède, 103
Classification, of functions, Kant's, 27; of sciences by Comte, 56
Clifford, W. K., 60, 126
Cognitive and motive powers, 48
Coincident variations, 82
Collectivism of Rousseau, 56
Community, 110
Comparative psychology, **86** ff.
Composition theory of Spencer, 84
Comte, **33** f., 40, 52, **56** f., 84, 86, 104, 105
Concurrence of racial and individual thought, 134 f.
Condillac, 10, **12** ff.; portrait, 12; 48, 50, 59, 84, 128
Consciousness, to Herbart, 65 f.; rôle of, 80
Cousin, V., 53
Criticism, **19** ff.
Darwin, Ch., 35, 61, **78** f., 82, 84, 86, 100, 115

Darwinism, (see Darwin, and natural selection); in instinct, 81; 89, 99 f., 105, 115
Dauriac, 120
Deferred imitation, 94
Descartes, 3, 4, 9, 26, 59, 158
Dessoir, 10, 40
De Vries, 91
Dewey, J., 107
Dialectic, of Kant, 20; social, 108
Diderot, 16
Diffused discharge of Spencer, 100 f.
Double-aspect theory, 60
Driesch, H., 97
Drobisch, 66
Dualism, **136** ff.; psycho-physical, 144 f.; of reflection, 145; of subject and object, 160
Duns Scotus, 38
Durkheim, 106
Echolalia, 92
Eclecticism, French, 53
Effort, to French voluntarists, 50; to Lamarck, 88, 112
Einfühlung, (see Semblance); 127
Ejection, 121, **126** f., 139 f.
Elements of mind, 84 f.
Ellwood, 108
Emotion, to Hume, 9, 114; expression of, 115 f.; kinæsthetic theory of, 116 f.
Empathy, 126
Empiricism (see Hume); radical, 132; Locke's, **1** ff.
Encyclopædists, 16
English moral philosophy, **46** ff.
Epiphenomenon theory, 60
Erdmann, 111
Espinas, 87
Esse est percipi of Berkeley, 18
Evolution, 61, 78
Excess discharge, 100
Experimental psychology, 74 ff.
Expression, emotional, 115 f.
Extensity, 70
External sense, to Locke, 2
Fabre, 86
Faculties (see Functions and powers); Lotze on, 71
Faith philosophy, **29** f.
Fechner, G. F., 35, **74** ff., 126
Feeling, to Hegel, 41; to Herbart, 65; to Spencer, 84; theories of, 118
Féré, 125
Fichte, 33, **37** f.
Fideism. See Faith philosophy.
Flournoy, Th., 125
Form-quality, 43
Fouillée, 11, 64
Freedom, to Kant, 21; to Hegel, 43
French spiritualism, **49** ff.
Fries, 33
Fusion, to Herbart, 64
Galton, F., 131
Gemüth, 65
Generalisation affective, 121
Genetic modes, 100
Genetic psychology of Hegel, 41, **78** ff.
George, 66
God, to Kant, 21; as eject, 126
Goethe, 31
Green, T. H., 12, 36, 41
Groos, K., 87, 95 f., 127
Guyau, 107
Habit, to Hume, 9, 52, 68; Darwin on, 115
Hall, G. S., 35, 103
Hamilton, Sir W., **48** f.
Harms, 10, 16
Harris, W. T., 36
Hartley, **15** f.
Hartmann, E. von, 37, **45** f.
Hearing, Helmholtz on, 74
Hegel, 33, 37, 39, **40** ff., 104, 111
Helmholtz, H., 66; portrait, 73; 78
Herbart, 8, 12, 35, **61** ff.; portrait, 64; 70 f.
Hesiod, theogony of, 55
Hobbes, 3, 33, 46
Hobhouse, 41
Hodgson, S., 132
Höffding, 37
Höfler, A., 43, 124
Holbach, Baron von, 16
Home, on æsthetics, 47
Hudson, 86
Hume, D., 4, **5** ff., 12, 17, 21, 25, 33 f., 42, 46, 49, 52
Husserl, 111
Hutcheson, 47
Huxley, 81
Hypnotism, 129
Hyslop, 124
Idealism, **16** ff.
Ideas, (see Association); Locke on, 1 f.; of reflection, 3; innate, 3; to Hume, 6; to Berkeley, 18; of reason, 21
Imagination, in Kant, 27; as interpretation, 147; (see Semblance).
Imitation, **91** ff.; deferred, 94
Immediatism, 133
Immortality, to Kant, 21
Imperative, categorical, 22
Impressions, to Hume, 6
Individualism of Rousseau, 56
Inheritance, Lamarckian, 79 f., 82, 88
Inhibition, to Herbart, 64; as attention, 130 f.
Innate ideas, **3**, 82
Innervation, 112
Instinct, **88** ff.
Intellectualism, **17** ff.
Intensity, law of, 75 f.; as attention, 130
Interaction, to Lotze, 68
Internal sense, to Locke, 2
Interpretation, genetic, **134** ff.
Introjection, 121
Intuition to Jacobi, 30; in English,

moralists, 47; to Scots, 48; the new view, 133
Jacobi, **29** f.
James, W., 66, 70, 111 f.; portrait, 113 f.; 125, 132
Janet, Paul, 53
Janet, Pierre, 129
Jennings, H. S., 98
Jodl, F., 111
Jouffroy, **52** f., 79
Judgment, Kant's critique of, 23, 39
Kant, 9 f., 17, **19** ff., 29, 33, 58, 64, 133, 147
Kinæsthesis, 94 f.; equivalents, 98; **112** f., 114 f.
Klemm, O., 2, 44, 111
Külpe, O., 114
Lacombe, 107
Ladd, G. T., 67, 72
Lalo, Ch., 127
Lamarck, 35, **78** f.
Lamarckism (see Lamarck); inheritance, 79 f., 82; instinct, 88
Lamettrie, 15
Lange, C., 115
Lapsed intelligence, 88
Laromiguière, P., **50**, 129
Law of Comte, 56
Learning process, **97** ff.
Lehmann, A., 117
Leibnitz, 3, 9, 16, 19, 21, 41, 61, 64
Lessing, 31
Lewes, 56, 60
Liégeois, 129
Lipps, Th., 66, 127
Localisation of brain functions, 72
Local signs, 66; to Lotze, 70
Locke, J., **1** ff., 5, 9, 10, 22, 25, 33 f., 49 f. 112
Loeb, J., 98
Logic, Aristotelian, 111; symbolic, 111; affective, 120 f.
Lotze, H., 31, 35, 66, **67** ff., 72, 111, 127, 133
McCosh, J., 30, 48
McDougall, W., 108, 122, 137
Mach, 61
Malebranche, 19, 61
Mantegazza, 115
Marx, K., 104
Materialism, **15** ff.
Maudsley, H., 60 f., 74, 106, 125
Mechanics, of Ideas, 8; Herbart's, 62 f.
Meinong, 28, 147
Memory, affective, 120 f.
Metaphysics, Comte on, 56
Method, positive, **54** f.; psychophysical, 75
Mezes, S., 137
Miall, 88
Mill, J. and J. S., 24, 48; James, **48**; J. Stuart, **49** f.
Mimetism, 92
Mind, reduced to brain, 15; in Hegel, 40 f.
Mitchell, 127
Monadism, of Herbart, 61
Moral philosophy, English, **45** ff.
Morgan, C. Ll., 82, 87, 89
Motor processes, 52; reaction, 77
Movement, theories of, **97** ff.
Müller, M., 105
Münsterberg, 11, 42
Mysticism, 30 f.
Myth, 152
Natural Realism, **48** f.
Natural Selection (see Darwin); 78
Naturalism, Hume's, 7 f.
Neo-Hegelianism, 36, 41, 49
Noumenon, to Kant, 21
Objectivism, **141** f.
Organic selection, 82, 90
Origin of knowledge, to Locke, 5
Ormond, A. T., 52, 67, 137
Osborn, H. F., 82
Pain (see Pleasure and Pain); 118
Pancalism of Kant, 25; of Schelling, 39 f.
Parallellism, psycho-physical, 16, **59** ff.
Paulhan, 120, 127
Paulsen, 132
Pearson, K., 61, 131
Pedagogy, Herbart's, 67
Personality, alterations of, 124
Phenomenalism (see Sensationalism); to Condillac, 14
Phenomenology of Hegel, 43
Physiological psychology, **72** ff.
Pillsbury, W. B., 131
Plato, 22, 25, 133, 156
Play, **94** ff.
Pleasure and Pain, to Locke, 4; analogue of, 16; reactions of, 94, 101
Poincaré, H., 61
Porter, Noah, 48
Positivism, (see Comte); English, 49, 104; French, **56** f.
Poulton, E. B., 81
"Practice" theory of play, 95
Presentation, in Herbart, 62
Preyer, W., 103
Priestley, 15 f.
Primary qualities, to Locke, 2; to Condillac, 12
Prince, M., 125
Projective stage, **137** f.
Psychologism, 9, 111
Psychology, to Kant, 28; in nineteenth century, **32** ff.; individual and collective, 34 f.; positive, 34; philosophical and scientific, 36; in nineteenth century, **55** ff.; physiological, **72** ff.; experimental; **74** ff.; genetic, **78** ff.; animal and comparative, **86** ff.
Psychology of child, 103 f.; social, **104** ff.
Psychophysical parallellism, 16; **59** ff.; law of Fechner, 75; dualism, 144
Psychophysics, **74** f.

Pythagoras, 153, 156
Racial experience, 82, 88, 111
Reaction-time, 76 f.
Reality, belief in, to Hume, 8
" Reals " of Herbart, 62
Reason, pure and practical of Kant, 19 ff.; to Jacobi, 30
Redintegration, 48
Reflection, ideas of, in Locke, 3; dualism of, **145** f.
Reid, Th., **48**
Rehmke, J., 124
Representation, collective, 140
Revival, (see Memory); affective, 120
Ribot, 11, 36, 66; portrait, 119; 120 f., 131
Rickert, 42
Romanes, G. J., 61, 86, 126
Rousseau, 33 f., 52, **55** f.; portrait, 58; 104
Royce, J., 137
St. Augustine, 38, 50, 158
Schelling, 31, 37, **39** ff.
Schema, Kant's, 28, 147
Schiller, 31
Schleiermacher, 37, **44**
Schopenhauer, A., 37, **45**
Schwegler, 30, 158
Scottish psychology, **48** f.
Secondary qualities, bf Locke, 2
Selection. See Natural and Organic Selection
Self, Hume's, 8; Kant's, 21; as subject and object, 160
Self-consciousness, to Fichte, 38; to Herbart, 66; origin of, 108 f.
Self-imitation, 92
Semblance, (see Semblant); **126** f., 147
Semblant imagination, in Kant, 24
Sensation, tactile, 118
Sensational sm, Hume's, **5** ff.; Condillac's, **12** ff.
Sense, to Locke, 2
Sensory reaction, 77
Sentiment in English moral philosophers, 46
Shaftesbury, Earl of, **46** f.
Shock, nervous, 84
Sigwart, 111
Simmel, 107
Simplicity, illusion of, 85
Smith, Adam, 46
Social psychology, **101** ff.
Sociology, Comte's, 58, 105
Socius, 108
Socrates, 154
Sophists, 12, 154
Soul, to Berkeley, 18; to Herbart, 61
Sources, list of, 163 f.
Space, visual and tactual, to Berkeley, 18; to Kant, 26; to Herbart, 66; to Lotze, 70
Spencer, H., 10, 60, **81** f.; portrait, 83; 88, 93, 100 f.
Spinoza, 16, 29, 41, 61
Spiritism of Wallace, 81
Spiritualism(ists), Berkeley's, 19, in England, **4**; French, 49 f.; of Jouffroy, 52; of Lotze, 70; French, 112
Spontaneity, of Bain, 101
Steinthal, 67
Stephen, L., 107
Stewart, D., 48
Stricker, 112
Subject and object, dualism of, 160
Subjectivity, rise of, **138** f.
Suggestion, 129
Synomic meaning, 111
Synthesis, 7
Taine, H., 66
Tarde, G., 92 f., 107
Teleology, in Hegel, 42
Temperature, Locke's experiment, 5
Temporal signs, 70
Tetens, 27
Theory of Knowledge, of Locke, **1** ff.
Thought, development of, **134** ff.
Threshold of consciousness, 65
Time-perception. See Temporal Signs
Titchener, E. B., 78, 126, 131
Tradition, animal, 90, 106
Transcendental, æsthetic, to Kant, 20; dialectic, 20
Transit observation, 76
Trial and Error, 98 f.
Tropism, 98
Tufts, J. H., 107
Tylor, E. B., 105
Type of reaction, 77
Unconscious, the, to Schelling, 39; to Schopenhauer 45; to von Hartmann, 45; to Lotze, 71; modern theory, 124
Urban, W. M., 121
Utilitarianism (see Mill); 46 f.; French, 49, 53
Variation, Darwinian, 79 f.; coincident, 82
Venn, J., 111
Vision, Berkeley's theory of, 18; Helmholtz on, 74
Vitalism, 97 f.
Volkmann v. Volkmar, 66
Voluntarism of Fichte, 38, 133
Waitz, 66 f.
Wallace, A. R., **78** f., 81, 86, 89
Ward, J., 67, 70, 126
Washburn, 99
Watson, J., 36
Weber, law of, 75 f.
Weismann, 89
Will, (see Voluntarism); to Condillac, 12; to Lotze, 68
Wolff, C., 2, 49
Woodworth, 72
Wundt, W., 72, 78, 92, 111, 112

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